



Sustainable KTU

SUSTAINABILITY REPORT 2024

13 CLIMATE
ACTION



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Sustainable development is not only a global vision, but also a shared responsibility that our country bears towards future generations. In this sense, the Sustainable Development Goals (SDGs) set by the United Nations, Turkey's 11th and 12th Development Plans, the Green Deal Action Plan, and the Higher Education Council's sustainability vision form a roadmap for higher education institutions.

As Karadeniz Technical University, we consider it our primary duty to contribute to these goals in line with our mission of education, research, and community service. Our university produces science-based knowledge, develops policies, and implements projects in interaction with the community across a wide range of areas, from quality education to climate action, from poverty reduction to the construction of innovative and sustainable cities.

In line with our country's national policies, our university leads regional development and assumes global responsibility through international collaborations, while also aiming to educate our students to become conscious individuals for a sustainable future. The report prepared in this context reflects not only the activities carried out but also our university's determination on its sustainability journey.

Our belief in the future is strengthened by the guidance of science and the dynamism of our youth. Karadeniz Technical University will continue to contribute to sustainable development goals and support our country's vision in this area.

Prof. Dr. Hamdullah ÇUVALCI
Rector, Karadeniz Technical University



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Climate change is one of the most critical global issues of our time, directly impacting the economic, social, and environmental sustainability of societies. Sustainable Development Goal 13 (Climate Action) aims to mitigate the negative effects of climate change, reduce greenhouse gas emissions, strengthen adaptation and resilience policies, and leave a livable world for future generations. Universities play a pioneering role in achieving this goal as critical actors in scientific knowledge production, social awareness raising, technology development, and policy-making processes.

Karadeniz Technical University (KTU) has a special responsibility in combating climate change due to the ecological characteristics, topography, and natural disaster risks of its geographical location. In this context, our university scientifically analyzes the effects of climate change through its faculties, research centers, departments, coordinatorships, and student communities; develops projects to increase resilience against disasters; and conducts educational activities and events that strengthen environmental awareness.

KTU contributes directly to climate action through applications such as energy efficiency, reducing carbon footprint, using renewable energy sources, sustainable transportation systems, and a zero-waste approach. In addition, specialized units such as the Earthquake and Structural Health Application and Research Center, the Landslide Application and Research Center, and the Environmental Problems Application and Research Center carry out studies aimed at reducing disaster risks, ensuring environmental sustainability, and supporting climate change adaptation policies.



Institutional Structure

- **Faculty of Forestry, Faculty of Engineering and Faculty of Architecture:** Contributes scientifically to the sustainable management of natural resources, ecological planning, increasing green spaces, protecting watersheds, and developing urban policies that are compatible with climate change.
- **Center for Environmental Issues Application and Research:** It is the university's leading center for environmental management, analysis of the effects of climate change, sustainability applications, and social awareness projects. The “Climate Change Working Group” within the center directly contributes to SDG-13.
- **Landslide Application and Research Center:** It serves SDG-13 goals by conducting activities to predict landslides, create risk maps, and develop disaster management strategies in the face of increasing rainfall patterns and geological risks associated with climate change.
- **Earthquake and Structural Health Application and Research Center:** By conducting studies in the context of structural safety, disaster risk reduction, and resilient cities, it contributes to increasing social resilience against climate-related disasters.
- **Zero Waste Coordination:** Contributes to both climate action and the university's environmental sustainability goals by separating waste at source, improving recycling processes, and developing sustainable consumption habits.



KTU's Work Under SKA-13

In 2024, within the scope of KTU, SKA-13: Climate Action, KTU carried out numerous activities, scientific research, and social contribution activities aimed at combating climate change, raising awareness of disasters, and increasing awareness of sustainable living.

On May 27, 2024, a seminar titled "Climate Change and Our Future," featuring Prof. Dr. Aygün Erdoğan as the speaker, was held at KTU Faculty of Health Sciences. The seminar addressed the regional effects of global warming and the implications of the climate crisis on public health and the economy, with students and academics participating in discussions on proposed solutions.



On May 2, 2024, an educational event titled "Climate Change and Eco-Friendly Behaviors" was organized to raise awareness among KTU staff and was conducted online via the KTU Distance Education System. The training, delivered by Seher Karasu, Research Assistant at the Department of Psychology, Faculty of Literature, addressed the effects of climate change on natural life, ecological damage, rising sea levels, and the physical and psychological consequences on human health. It also highlighted sustainable living steps that can be taken at an individual level.

In accordance with the protocol signed between KTÜ and ÇŞB, General Directorate of Geographic Information Systems regarding the determination of disaster risks such as floods, landslides and inundations that increase as a result of climate change, the project titled "Detection and Analysis of Construction Risks in Regions Affecting Flood and Inundation Areas in Samsun, Ordu, Giresun, Trabzon, Rize and Artvin Provinces and Districts" has been started within the scope of adaptation to climate change.

KTU Landslide Application and Research Center, in collaboration with Trabzon Metropolitan Municipality, held a panel titled "Are Floods and Landslides Inevitable in Trabzon?" as part of the October 13 Disaster Awareness Day, addressing regional disaster risks and proposed solutions.

The Industrial Engineering Club (KTU EMK) organized the FAZ event themed "Sustainability: Climate Crisis" on March 19, 2024. The event, which attracted over 400 participants, took place at the Prof. Dr. Osman Turan Culture and Congress Center. Various seminars and workshops were held on sustainability and the climate crisis. Expert speakers addressed the causes and consequences of the climate crisis, one of today's most pressing global challenges.





Led by Prof. Dr. Ersan Başar, a faculty member at KTU Sürmene Faculty of Marine Sciences, the “4th National Arctic Scientific Research Expedition” was carried out under the coordination of TÜBİTAK MAM Polar Research Institute. With the participation of many universities and institutions from Turkey, 16 scientific projects were carried out in the Svalbard Archipelago, examining the decline of sea ice, its effects on ecosystems, and the reflections of global climate change. The collected data was analyzed in the laboratories of KTU and partner institutions, contributing to national and international literature.

At KTU, Faculty of Economics and Administrative Sciences, the first session of the seminar series “Sustainable Living: From Awareness to Action” delivered by Assist. Prof. Dr. Abdulgazi Yıkıcı addressed the historical development of climate change and its current impacts, while raising participants’ awareness of sustainable living.

Within the scope of the May 15 World Climate Day, an “Climate Change Awareness Day Event” was organized with the aim of enabling young people to learn about climate change, gain a consciousness of sustainable living, understand cause-and-effect relationships, and reflect on individual steps to protect the climate. This event made significant contributions to the environmental awareness process of university youth.



Additionally, scientific broadcasts on KTU TV have strengthened awareness of climate change. The program "Climate Change and Forests," produced with the participation of Prof. Dr. Ömer Kara, addressed the impacts of global warming on forest ecosystems and the critical role forests play in combating climate change. The program "Climate Change and the Future of Cities," featuring Prof. Dr. Aygün Erdoğan, discussed urbanization, environmental risks, and sustainable urban planning.



In addition, important information and research conducted by KTU have been shared with the public in the programs titled "Contribution Potential of Surveying Engineering Applications to Meteorological Forecasts" by Prof. Dr. Emine Tanır Kayıkçı dated October 2024, "Interview on Polar Studies" by Prof. Dr. Raif Kandemir dated April 2024, "Science at the Poles" by Prof. Dr. Ersan Başar and Assoc. Prof. Dr. Murat Özkaptan dated April 2024, and "Science at the Poles" by Prof. Dr. Ersan Başar and Assoc. Prof. Dr. Murat Özkaptan dated April 2024.





Academic Contributions

Karadeniz Technical University (KTU) continues to carry out qualified studies under the theme of Climate Action. According to the Scopus database, 38 scientific publications related to this Sustainable Development Goal were produced in 2024. In addition, the AVESIS database records 7 conference papers, 6 book chapters, and 15 postgraduate theses among the outputs contributing to this field.

In the 2025 results (based on 2024 data), KTU ranked within the 301–400 band among 1,089 universities, with an overall indicator score of 50.3. The score for research in this field was reported as 68.5 in the related report.

Within the framework of SDG 13: Climate Action, KTU has demonstrated that it is one of the leading institutions assuming responsibility for a sustainable future through its activities in education, research, public awareness, and international collaborations. These efforts—aimed at mitigating the impacts of climate change, managing disaster risks, and promoting a culture of sustainable living—provide significant contributions not only to the university community but also at regional and national levels. By continuing to transform its mission of producing scientific knowledge into societal benefit, KTU aims to create a strong and lasting impact in the field of climate action.





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