



# Report on the activities on Sustainable Development Goals of the Kazakh-British Technical University

The materials for the report are presented for 2021-2024





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# Preface

The Kazakh-British Technical University (KBTU) demonstrates its commitment to sustainable development principles by supporting and implementing initiatives aimed at reducing its carbon footprint, improving energy efficiency and reducing resource consumption.

Kazakh-British Technical University is one of the leading technical universities in the region. We work in partnership with the global academic community, corporate and public sectors on the fundamental values of quality, academic integrity and openness. KBTU is a world-class university engaged in scientific research, education and training of the scientific elite and highly qualified personnel for various spheres of the world economy. We build a knowledge bridge between society and science, between Kazakhstan and the rest of the world in such areas as technology and business. We are confident in our strengths and capabilities, working with various interested partners. Innovative and creative approach is a priority for KBTU, our projects differ in concept and solve different problems. KBTU's desire to improve quality and academic performance is represented by the participation of leading companies in the KBTU Advisory Council. Our faculty is represented by local and foreign teachers from such countries as the UK, Australia, Turkey, USA, India. More than 90% of KBTU graduates find a job or continue their education in a master's degree program after completing their studies. Most of our graduates work in leading international oil and gas companies, consulting, IT companies in Kazakhstan and around the world. Leading mathematicians and physicists work at KBTU. KBTU has modern equipment, scientific laboratories, where researchers and students work on

innovative projects.

Every year our university is represented in the international QS ranking. In the region In Central Asia and Eastern Europe, we are among the top 30% of universities, according to the global QS ranking, we are among the top 5 universities in Kazakhstan. KBTU programs have received international recognition thanks to ABET, ACBSP, IQAA, CIMA, ACCA, CFA accreditations.

The University has integrated the SDGs into its educational and scientific programs, as well as into its daily activities, becoming a leader among Kazakhstani universities in implementing these initiatives. Kazakh-British Technical University (KBTU) is actively developing projects and initiatives aimed at implementing **Sustainable Development Goals development (SDGs)**, especially in the field of quality education, innovation and international cooperation. KBTU is among the top ten universities in Kazakhstan and Central Asia, which confirms its high reputation among educational and scientific institutions.

## 2 SDG 1:

The Kazakh-British Technical University (KBTU) actively promotes Sustainable Development Goal 1, which is related to combating poverty and supporting social initiatives. Within the framework of this goal, the KBTU Endowment Fund (KBTU-ECF), created in 2018 to search for and organize charitable and sponsorship assistance, operates.

The main areas of activity of the Foundation:

- Support for educational, scientific, sports and cultural initiatives.
- Sponsoring projects for the development of KBTU infrastructure.
- Establishing professional relationships with public and private organizations to find resources for educational and scientific initiatives. Social projects:

Since 2019, KBTU has been actively cooperating with Almaty Orphanage No. 1. University students, including foreign students, teach children English and Chinese and organize events to support orphans. These activities not only contribute to education, but also help improve social conditions for vulnerable groups.

Through the joint efforts of long-term social support of the Atyrau region by Tengizchevroil LLP (TCO), the Kazakh-British Technical University and the Educational Department of the Atyrau region, a summer holiday in the mountains was organized for children of the Zhylyoi district.

As part of the development program for the Zhylyoi district of the Atyrau region, the Kazakh-British Technical University supported the initiative of the largest oil producing enterprise in Kazakhstan, Tengizchevroil LLP (TCO), in providing sponsorship assistance for organizing a summer camp for 60 children from large families in the city of Kulsary.

The list of children was determined by the Zhylyoi District Education Department in accordance with the following criteria: good academic performance, winners of Olympiads, positive references from teachers and good discipline; the main focus of the initiative was children aged 12 to 16, children from vulnerable groups (low-income, large families, orphans or from single-parent families).

Comfortable travel from the city of Kulsary to the Almaty mountain camp of KBTU was organized for children. The camp territory is decorated with birch and pine groves, and the children also have a picturesque view of the Ile-Alatau National Park at an altitude of 2200 meters. The camp program includes a visit to the swimming pool, quad biking. Games and competitions are provided in the rope park and other sports areas. In the evenings, children get acquainted with the starry sky in the planetarium, counselors conduct workshops on interests, a football field is at the disposal of young football players, experienced pilots of the Aerostat hot air balloon club will surprise you with a trip in a hot air balloon, and an equestrian arena and other developmental activities and competitions are also organized for children. Five meals a day are provided so that schoolchildren have enough strength for a rich program. ([https://kbtu.edu.kz/ru/latestnews/3669:60-](https://kbtu.edu.kz/ru/latestnews/3669:60-children-from-atyrau-oblast-will-have-a-vacation-at-almatinskom-letnem-lagere-kbtu-2)

[children-from-atyrau-oblast-will-have-a-vacation-at-almatinskom-letnem-lagere-kbtu-2](https://kbtu.edu.kz/ru/latestnews/3669:60-children-from-atyrau-oblast-will-have-a-vacation-at-almatinskom-letnem-lagere-kbtu-2) ).



**60 ДЕТЕЙ ИЗ  
АТЫРАУСКОЙ  
ОБЛАСТИ ПРОВЕДУТ  
КАНИКУЛЫ  
В АЛМАТИНСКОМ  
ЛЕТНЕМ ЛАГЕРЕ  
КБТУ**



A team from Kazakhstan that developed the ReVita mobile app entered the top ten at the global Google Solution Challenge hackathon. This was reported to Forbes.kz by Askar Aituov, coordinator of Google for Startups & Google for Developers in Central Asia. Teams of students from all over the world take part in the annual Google Solution Challenge hackathon. The main condition is that the project proposed by the participants should somehow help solve the problems outlined by the 17 UN Sustainable Development Goals. The ReVita project was developed by Nazarbayev University students Dias Baimukhanov and Madiyar Moldabayev, as well as KBTU students Dinmukhamed Nuran and Ansar Serikbayev. The project was put forward by the Nazarbayev University Google Developers Club. The application was developed with the technical mentorship of two other NU students - Yernure Beisenbek and Temirlan Zaikenov: This application is to help patients recover from organ transplantation. Moreover, the help also includes emotional overcoming of a difficult operation. "Many patients think more about the physical aspects - the operation itself and healing, less about the emotional state. After the operation, someone begins to worry about their condition, someone - faces organ rejection. The condition in which a person finds himself can be very important both for himself and for the people around him," say the authors of the project. The project was tested with the support of the Republican State Enterprise on the Right of Economic Management "Republican Center for Coordination of Transplants and High-Tech Medical Services". The guys showed the application to transplanted patients with the support of Zhanibek Uspanov, press secretary of the Transplantation Center. With the help of the application, you can monitor the schedule of taking medications, physical activity, and keep in touch with the doctor. The team plans to develop the project beyond the hackathon, and add a wide functionality based on AI. To this end, they have already presented the project to several investors and are planning to enter the market in the near future.

5,000 teams from different countries applied to participate in this competition in 2023. The top 100 were mostly made up of representatives from Japan, India, China, as well as participants from North America and the UK. In the entire history of the hackathon, only this year have teams from Central Asia made it into the top 100. The inclusion of the Kazakh team ReVita in the international top 10 once again cements Kazakhstan's place in the global IT arena.



she).



## **3. SDG 7: Affordable and Clean Energy**

### **3.1 Implementation of energy efficient technologies and energy saving solutions**

KBTU is actively implementing energy-efficient technologies in its buildings and academic buildings. The university has switched to 100% LED lighting, which has significantly reduced energy consumption. Additionally, automatic lighting control systems using motion sensors have been installed in academic buildings and offices. These systems minimize energy consumption in the premises, which helps reduce carbon emissions.

### **3.2 Energy Transition Project: Implementation of Renewable Energy Sources**

In partnership with the British University, KBTU is developing a project to introduce renewable energy sources in Kazakhstan. The research includes developing solutions for the introduction of solar and wind energy systems in the urban environment of Almaty and surrounding regions. The goal of the project is to support the "green transition" and improve the energy efficiency of urban infrastructure.

### **3.3 Environmental policy**

Kazakh-British Technical University (KBTU) actively supports environmental initiatives and adheres to international environmental management standards such as ISO 14001:2015. The main goal of KBTU's environmental policy is to minimize environmental impact, improve energy efficiency and manage resources responsibly.

The university has implemented a comprehensive energy management system that includes the use of energy-efficient technologies and renewable energy sources. LED lamps and energy-saving devices are installed in offices, as well as automatic lighting control systems, which reduce energy consumption and minimize carbon emissions.

KBTU is also actively working on optimizing water consumption. Installed water-saving faucets and dual flush systems allow for a significant reduction in water consumption. The introduction of water meters in each room contributes to a more rational use of resources and allows for the prompt elimination of possible leaks.

The university has developed and implemented a separate waste collection program. Containers for waste paper, plastic, glass and hazardous waste (light bulbs, batteries) are installed throughout the campus. KBTU actively cooperates with waste disposal service providers, ensuring the recycling and disposal of waste in accordance with environmental standards. The waste paper recycling program allows for the recycling of hundreds of kilograms of paper annually, minimizing load on landfills.

KBTU's green policy includes not only concern for waste and resources, but also landscaping. The university actively plants trees and plants on campus, creating comfortable conditions for work and rest. Natural materials and living plants are used inside the buildings, which improves air quality and supports eco-friendly design.

In addition, the university organizes regular programs to educate and raise awareness of employees and students in the field of sustainable development. Trainings, seminars and competitions are held aimed at environmental education and the introduction of sustainable development principles into the daily life of employees and students.

KBTU's environmental policy is aimed at reducing the impact on the environment, efficient use of resources and the introduction of advanced sustainable development technologies.

### **3.4 KBTU events**

In 2021, KBTU organized the Third Almaty Energy Forum, which brought together experts in the field of sustainable energy, representatives of the governments of Kazakhstan and neighboring countries, as well as international organizations. One of the key areas of the forum was the discussion of issues related to the expansion of the use of renewable energy sources and the reduction of carbon emissions. The forum presented KBTU's developments in the field of solar panel production and new superconducting materials, which contributes to energy security and

ecology.

April 11-12, 2024 within the walls of the Kazakh-British Technical University

The International Youth Scientific and Practical Conference "Energy Horizon 2024: Decarbonization, Green Energy, Alternative Energy, the Future of Oil and Natural Gas" was held. The event was organized by the Kazakh-British Technical University. The conference, dedicated to Science Day and the 125th anniversary of Kanysh Imantayevich Satpayev, is intended to become a platform for discussion among young scientists on issues related to decarbonization, green energy and the prospects for the development of oil and natural gas. As the rector of the Kazakh-British Technical University Maratbek Gabdullin said, this is the first conference after the creation of the university hub in 2023. The university hub, which prepares



specialists for the energy industry, was created on the initiative of KBTU during the World Petroleum Council forum in Calgary: “KBTU is the first university - a member of the WPC and today strives to unite universities from different parts of the world in the energy sector. It is planned that the presented hub will include universities from the USA, Canada, France, Romania, Great Britain, Germany, Italy, Saudi Arabia, Tatarstan, China. A decision was made to hold summer schools on the basis of one of the universities to unite young specialists and adapt them with company representatives. Also, our university, together with Caspian Oil JSC, plans to open a production simulator in the SES PIT Alatau in the near future, where we will have five pump-injectors, four producing, fully digitalized, which will be controlled from the KBTU building.” The main goals and objectives of the event were defined as: creating a space for active dialogue and exchange of scientific research, supporting the scientific and intellectual growth of young specialists and establishing connections between researchers and industry professionals.

<https://kbtu.edu.kz/ru/latest-news/4306-perspektivy-energeticheskoy-otrasli-v-2024-godu-kbtu> )



KBTU students address relevant and problematic topics in their diploma theses in the energy sector, proposing ambitious ideas that attract the attention of large companies in Kazakhstan. One of such works in 2024 was the diploma project "Modification of melting properties to optimize paraffin deposition prediction/Modification of melting properties to optimize nodal analysis" by students of the School of Energy and Oil and Gas Industry Irina Spivakova, Ilya Bayanov, Begasyl Sultanbayev, Adilkhan Umbetaliyev. This work studies the melting properties and the temperature of transition to a solid state of crude oil based on real data from a Kazakhstani field.

([https://www.petroleumjournal.kz/index.php?p=press-more&owner\\_id=21&id=1481&outlang=1](https://www.petroleumjournal.kz/index.php?p=press-more&owner_id=21&id=1481&outlang=1) ).



At the School of Information Technology and Engineering, students presented interesting and relevant topics related to the development of personal finance accounting, as well as solving Almaty's problems in the field of industry, air and water purification, and more. For example, graduates of the School demonstrated the development of an automated control system for a robot platform for an industrial warehouse using modern microprocessor technology from Honeywell. Projects were also presented to develop an automated Smart air purification system in an urban environment and an automation system for the technological process of producing high-pressure steam with a station for removing overheating. The project "Development of an automated water purification system within the Smart city concept" was especially notable, developed by three graduates: Damira Koyanbaeva, Aida Kereybekkyzy and Alina Anatolyevna. The diploma project was made on the basis of the Almaty Su water purification station. With this topic, Damira Koyanbaeva, a graduate in the Automation and Control specialty, and Zarina Samigulina, a professor at the School

Information Technology and Engineering and junior technical support Schneider Electric Kazakhstan took part in the “International Industrial Forum: New Innovations in Energy and Mechanical Engineering” this year.



The winners of one of the most prestigious competitions in the field of financial analysis and investment – the regional competition CFA Challenge – presented a diploma thesis on the topic “Study of the share capital of Kaspi.kz within the framework of the CFA research challenge project”. Four students of the KBTU Business School worked on the project: Madina Akhmetova, Aidana Amanbekova, Nabizhan Bobokhan, Zhangirkhan Zhandarbek. “Thanks to the knowledge provided by our university, we were able to conduct an in-depth analysis of the company and take first place at the regional stage of Central Asia. Our work includes a detailed study of the financial indicators of Kaspi.kz, analysis of key risks and recommendations for investors based on our research, paying special attention to share valuation methods and financial modeling. This result was possible thanks to our faculty of the Business School and teachers who gave us clear fundamental knowledge in the field of finance,” said Aidana Amanbekova, a student of the KBTU Business School.

In 2024, 727 students graduated from the university: 493 bachelor's degree graduates and 234 master's degree students. The university offers training in such areas as energy and oil and gas industry, geology, information technology and engineering, business, international economics, maritime academy, applied mathematics, chemical engineering, natural and social sciences, materials science and green technologies. The university also has joint

modern laboratories equipped with the best technologies for practice and research in collaboration with the university's partners.

The KBTU delegation as part of the trade mission of the British Embassy in Kazakhstan, Astana took part in the All-Energy Exhibition & Conference, which was held on May 15-16, 2024 in SEC Glasgow (Scotland), organized by representatives of the Department Trade and Investment British Embassy of Kazakhstan. The participation of KBTU representatives in the All-Energy Exhibition & Conference strengthened international cooperation in the development of projects in the field of sustainable and renewable energy and made it possible to establish links with the University of Leeds, the University of Glasgow and the University of Plymouth, 3t (Training. Technology. Transformation). Discussions on project work in the field of SDG, renewable energy, artificial intelligence began with representatives of these universities and companies

<https://kbtu.edu.kz/ru/latest-news/4462-delegatsiya-kbtu-prinyala-uchastie-v-konferentsii-all>

[- energy-exhibition-conference .](#)



## 3. SDG 6: Clean Water and Sanitation

### 3.1 Water resources management: water-saving technologies and water reuse

KBTU has implemented water-saving technologies in all its buildings. Water-saving faucets and dual flush systems have been installed, which allow for a significant reduction in water consumption. The introduction of reuse of industrial water for irrigation of the territory is planned as part of the expansion of the university's environmental program.

Currently, JSC "Institute of Fuel, Catalysis and Electrochemistry named after D.V. Sokolsky", a subsidiary of JSC "Kazakhstan-British Technical University" (KBTU), is the leading scientific institution in Kazakhstan in the field of fuel, catalysis and electrochemistry, whose scientific achievements have received international recognition. The activities of the Institute are aimed at integrating scientific, educational and production processes in the field of fuel, petrochemistry, catalysis and electrochemistry.

#### Directions

1r) development of new science-intensive catalytic technologies for oil and gas processing; petrochemical and organic synthesis of mono- and polymeric substances; new electrochemical technologies in the field of hydroelectrometallurgy, refractory metals, production of ultra-pure metals, semiconductor and anti-corrosion compositions, nanostructured powders of metals and alloys, biologically active substances;

2r) development of new catalytic and electrochemical technologies for protecting the environment from harmful components of emissions from industrial enterprises, energy and motor vehicles, and protecting metal structures from corrosion;

3By) obtaining profits through the efficient use of the scientific and economic potential of the Company, directing part of the profits to finance fundamental and applied research, developing the Company's infrastructure, investing in joint ventures and projects to create knowledge-intensive industries. In April 2024, as part of bilateral relations between JSC KBTU and the development of a new laboratory in the field of industrial automation and digitalization "Industrial Automation Lab" from Schneider Electric, Professor of the School of Information Technology and Engineering Z.I. Samigulina and junior technical support of Schneider Electric Kazakhstan, Damira Koyanbaeva (bachelor's student of the specialty "Automation and Control") took part in the International Industrial Forum: New Innovations in Energy and Mechanical Engineering, Almaty 2024. The forum consists of four exhibitions: mechanical engineering and metalworking, PowerTech Expo, Renewable Energy Expo and EnergySaveExpo. As part of the business program, entrepreneurs, experts, representatives of the industry, technical education

exchange experience with the aim of further development of the industry. The forum was held with the official support of the Ministry of Industry and Infrastructure Development of Kazakhstan, the Institute for the Development of Electric Power and Energy Supply, the Association of Electric Power Engineers, the Union of Power Engineers of Kazakhstan, the Qazaq green Association of Renewable Energy Sources and the Representative Office of the German Economy in Central Asia. Speakers from KBTU presented the concept of higher engineering education for "Industry 4.0". The laboratory base of the university for the development of engineering education was considered. Scientific research of KBTU teachers using artificial intelligence was discussed, contributing to the development of educational programs of the university in the field of industrial

automation. Koyanbaeva D. presented a project for the modernization of a water treatment plant (scientific supervisor Prof. Samigulina Z.I.) based on the new KBTU laboratory "Industrial Automation Lab" using industrial controllers from Schneider Electric of the Modicon M340 and Modicon M241 series under the control of EcoStructure Control Expert and EcoStructure Machine Expert software. The use of modern industrial equipment in education, close ties with industry, as well as the introduction of innovative approaches based on artificial intelligence in education allows us to train high-class specialists for the development of the "Industry 4.0" concept.

[https://kbtuexpo-2024/latest-news/4330-kbtu-prinyal-uchastie-v-mezhdunarodnoj-vystavke-\\_\\_\\_\\_\\_](https://kbtuexpo-2024/latest-news/4330-kbtu-prinyal-uchastie-v-mezhdunarodnoj-vystavke-_____))



## 4. SDG 12: Responsible Consumption and Production

### 4.1 Separate waste collection system and recycling programs

KBTU actively promotes separate waste collection on campus. Containers for sorting paper, plastic, glass and hazardous waste (lamps and batteries) are installed throughout the university. In 2020, KBTU recycled more than 500 kg of waste paper and disposed of over 100 lamps, reflecting the high level of involvement of staff and students in waste recycling.

### 4.2 Circular Economy Project

Together with Nazarbayev University, KBTU is developing circularity indices for cities in Kazakhstan using big data and artificial intelligence. This project aims to create indicators for managing environmental policies of cities and optimizing waste and energy management. The project team, consisting of researchers from the Institute of Intelligent Systems and Artificial Intelligence (ISSAI) of Nazarbayev University and researchers from KBTU, has been working on the topic of circular economy since 2023, and the main goals of the project are to use modern technologies. the state of the art of artificial intelligence (AI) to develop a new method of city circular indexing (CCI) for the management and operation of construction sites. The creation of circularity indices for cities is an emerging area of research (Musillo et al., 2021); recent research initiatives indicate its emergence and importance, for example, ICLEI Europe[1] and the OECD[2] have recently funded similar studies. CCI typically includes Big Data Analysis (BDA) and provides a concise measurement of factors extracted from data related to city activities that support local, national and international green policies. This project focuses on a new contribution to the built environment part of the circular urban development. It will therefore contribute to the development of CCI for the built environment with a focus on construction activities.

### 4.3 KBTU events

KBTU is actively involved in initiatives to promote the circular economy. The 2021 International Forum on Innovations and Modernization of Water and Energy Resources in Central Asia discussed approaches to reducing emissions and efficient use of resources, including the development of

circular economy plans. The aim of the Forum is to develop solutions to the many challenges associated with the implementation of the 2030 Agenda for Sustainable Development and, in particular, to jointly discuss investment opportunities in regional and cross-border projects and refine approaches, financing mechanisms and partnerships in an interactive setting. In particular, the Forum will consider opportunities for projects that bring together several Central Asian countries, that address cross-border or regional needs and opportunities, and that could be financed through a combination of national budgets, donor funds and, ultimately, private or IFI funding. Among other things, the recommendations developed at the Almaty workshop will be reported to the Governing Council of the Special Programme for the Economies of Central Asia (SPECA) for consideration later this month. The recommendations may also be useful as countries in the region develop concrete forms of cooperation.

#### 4.4 ESG

The ESG session covered aspects aimed at responsible resource management, which supports the SDG 12 objectives to reduce negative environmental impacts. Innovative solutions aimed at reducing energy consumption and waste management were discussed, which will help not only the university, but also its partners, to implement more environmentally friendly and cost-effective technologies. These approaches promote responsible consumption and production, which is an important part of KBTU's strategy for sustainable development.

([https://www.facebook.com/story.php/?story\\_fbid=823456009803602&id=100064176304440](https://www.facebook.com/story.php/?story_fbid=823456009803602&id=100064176304440) )

#### 4.5 UNECE

In 2023, at the United Nations Resource Management Week in Geneva, the delegation of the Kazakh-British Technical University (KBTU) announced the establishment of a working group to coordinate efforts in the field of sustainable resource management in Central Asia. Professor Chokan Laumulin, Vice-Chair of the UNECE Committee on Sustainable Energy, moderated the sessions and announced the establishment of a research group on superconductivity at KBTU. Plans for the transformation of sustainable resource management by 2030 and the development of a roadmap for the next five years were also discussed. [Astana Time](#)



# 5. SDG 11: Sustainable cities and communities

## 5.1 KBTU Sustainable Cities Initiatives

Kazakh-British Technical University (KBTU) is actively involved in promoting Sustainable Development Goal (SDG) 11, which concerns the creation of sustainable cities and communities. The university implements various projects and activities aimed at improving urban infrastructure, supporting sustainable technologies and developing smart solutions for cities. KBTU actively supports campus greening programs. The university plants trees and shrubs around buildings, creating comfortable and environmentally friendly conditions for students and staff. The interior spaces are also decorated using natural materials and plants, which helps improve the microclimate and create a comfortable working environment.

### Smart City Development Projects

KBTU is actively involved in projects related to the Smart City concept, which involves the use of intelligent technologies to improve the quality of life of city residents. Students and researchers at the university are working on developing solutions for smart urban management, such as transport automation systems, energy-efficient buildings, and environmental monitoring systems. In 2024, the university organized seminars and workshops on the topic of "IoT for Smart City" and "AI for Smart City", where innovations to improve the efficiency of urban infrastructure were discussed (Inbusiness.kz).

### Innovations in Green Transport

As part of promoting environmentally friendly transport, KBTU supports projects aimed at developing sustainable transport systems. In 2023, the university held a series of events dedicated to green energy and sustainable transport, where students and researchers presented solutions for reducing emissions and using renewable energy sources in the transport sector. Such initiatives contribute to the development of environmentally friendly and accessible public transport systems, which is an important aspect of SDG 11.

### Research in the field of energy efficient technologies

KBTU also implements projects to improve the energy efficiency of buildings and urban systems. These projects include research in the field of green technologies and sustainable construction. The use of innovative solutions in energy and construction helps to create low-energy buildings.

energy consumption, which reduces the carbon footprint of cities and promotes sustainable development of human settlements. International Conferences and Partnerships

KBTU holds international conferences aimed at sharing experiences and best practices in the field of sustainable urban development. These events bring together representatives of the scientific community, business and government organizations, allowing the university to share its achievements and expand cooperation. These initiatives discuss issues of urbanization, waste management, adaptation to climate change and improving urban ecology, which directly supports SDG 11.

KBTU has a Master's program "Smart Cities and Smart Systems". Training of researchers in the field of building smart cities, managers in the field of developing complex smart intelligent systems for cities, highly qualified developers of software and information systems and architects of urban complexes for smart cities of Kazakhstan

<https://www.kbtu.kz/en/education/32989.html>) KBTU and Tallinn University of Technology (TalTech - Tallinn, Estonia) continue to strengthen their cooperation, which began in 2021 with joint seminars on Artificial Intelligence and the Internet of Things, as well as doctoral internships organized by the Institute of Technology and Information Technologies and the Center for the UN Sustainable Development Goals of the KBTU Project Groups. Let us recall that on March 31, KBTU Rector (Chairman of the Board) Maratbek Tulebergenovich and Rector of TalTech Hendrik Voll, within the framework of which it is planned to exchange students, teaching staff, organize seminars, as well as implement



As part of the faculty exchange, TalTech professors in the field of AI and the Internet of Things Sadok Ben Yahia and Ants Torim visited KBTU from April 17 to April 22, 2023, and met with the KBTU rector. During the meeting, they discussed possible projects in the IT fields. In continuation of the cooperation, on April 18, 2023, the School of Information Technology and Engineering and the UN SDG Center of KBTU Project Groups of KBTU organized an international workshop "Smart City and its applications", <https://www.sdg-center.kbtu.kz/conference>. The key speakers were professors from the Tallinn University of Technology (Estonia): Professor Sadok Ben Yahia and Professor Ant

Torim. As part of the workshop, master's and doctoral students of the Institute of Information Technologies and Information Technology demonstrated their software developments and the use of information and communication technologies in the design of Smart Cities, including: e-health, fintech, applications to help people with special needs, environmental pollution, the impact of smart cities on the life of society. All participants were awarded certificates, and the works of 1st-year master's students Zakir Shakirov and 2nd-year master's student Albina Aliturlieva were recognized as the best (<https://kbtu.edu.kz/ru/latest-news/3318-vstrecha-predstavitelej-kbtu-i-tallinn-university-of-technology>). Since 2022, Almatygenplan Research Institute LLP has been interacting with Kazakhstan-British Technical University JSC. The parties signed a memorandum and identified a number of areas of cooperation within the framework of interaction on scientific and educational programs. In June 2024, KBTU Rector M.T. Gabdullin, Managing Director for Continuing Education A.M. Ibrayev and Head of Project Groups, Professor of the School of Engineering and Information Technologies A.Zh. Akzhalova visited the Institute of Smart Systems and Artificial Intelligence of Nazarbayev University and met with the Director of the Institute, Professor Hussein Atakan Varol, as well as with the Head of the Circular Economy and Artificial Intelligence project, Professor Ferhat Karaca. During the meeting, joint activities on scientific internships, projects, creation of project groups, and holding conferences were discussed. The Institute of Smart Systems and Artificial Intelligence demonstrated its capabilities and laboratories, including a robotics laboratory led by Associate Professor Azamat Yeshmukhametov. The management of KBTU and the management of the Institute agreed to continue the joint activities that have been launched and increase the number of joint projects for grant funding. KBTU and the Institute are conducting research on the Circular Economy and Artificial Intelligence project from 2023 to 2025. The co-head of the project from KBTU is the Head of Project Groups, Professor Akzhalova A.Zh., the research group also includes professors of the Institute of Technology and Artificial Intelligence: A. Pak and I. Akhmetov, as well as a 2nd-year bachelor of the Moscow School of Economics Shakarim Aubakirov. Based on the results of the year, it is planned to hold a joint workshop on AI at NU.



## 6. SDG 4: Quality Education

### 6.1 Educational programs

Sustainable Development Goal 4 — “Quality Education” — is one of the key areas of work of the Kazakh-British Technical University (KBTU). The University actively promotes international recognition of educational programs, which contributes to improving the quality and accessibility of education, both in Kazakhstan and in the international arena.

International accreditations of educational programs The quality of KBTU educational programs is confirmed by various international accreditations, which significantly supports the implementation of SDG 4. For example, the Finance program is accredited by the Association of Chartered Certified Accountants (ACCA), which allows students to obtain international qualifications that open up access to career opportunities around the world. The Master's program in Financial Analysis is the only one in Kazakhstan accredited by the CFA Institute (USA), which makes it unique in Central Asia. These accreditations ensure recognition of graduates' diplomas in the global labor market and promote the creation of sustainable jobs, which is also related to SDG 8 - "Decent Work and Economic Growth" (forbes.kz). Accreditation of IT programs and training of specialists KBTU is the only university in the CIS that has received ABET accreditation for educational programs in the field of information technology, which confirms the high standards of training specialists. Students studying in these programs annually win prizes in international programming competitions, such as ACM ICPC. This accreditation not only enables graduates to compete effectively in the global IT market, but also promotes the concept of sustainable development through technology, facilitating the creation of intellectual infrastructure and innovation (SDG 9 - “Industry, Innovation and Infrastructure”).

Double Degree Programs As part of its internationalization strategy, KBTU is developing double degree programs with international partners, which significantly expands students' educational opportunities and is in line with SDG 4. For example, the KBTU International School of Economics provides students with the opportunity to obtain a double degree from KBTU and the University of London. In addition, the university runs a Master's degree program in Information Systems jointly with the Shanghai Polytechnic University and a Chemical Engineering program with the Ecole Nationale Supérieure des Mines de St-Etienne in France. Such initiatives facilitate knowledge sharing and the development of students' global competencies. Thus, thanks to international accreditations and partnerships, KBTU not only provides its students with high-quality education that meets international standards, but also actively contributes to the implementation of the Sustainable Development Goals, including high-quality education, industrial innovation and economic growth.

## 6.2 Online courses and internship programs in the field of sustainable development

KBTU has launched synchronous online courses on cybersecurity, smart grid management and circular economy. The courses are taught by KBTU experts, as well as international experts from the University of Salerno (Italy), Nexgen (Spain), and Janser Expert (Germany). The courses cover key aspects of sustainable development and resource management.

## 6.3 Workshops and summer schools with international partners

In addition, KBTU collaborates with prestigious universities such as the Kyoto Institute of Technology and the University of Reading through exchange programs and summer schools. Students take part in interdisciplinary projects related to technology, engineering and management, which expands their competencies in the field of innovation and sustainable development (SDG 9: Industry, innovation and infrastructure).

The university pays special attention to IT areas. KBTU students participate in workshops and hackathons organized with international partners, where they develop projects on cybersecurity, artificial intelligence and big data processing. This not only helps students master advanced technologies, but also promotes innovative solutions for the sustainable development of cities and digital infrastructures (SDG 11: Sustainable Cities and

communities)([forbes.kz](https://forbes.kz) ,[inbusiness.kz](https://inbusiness.kz) ).

The Academy of Corporate Education organizes summer schools in Great Britain and Italy, where students develop projects under the guidance of international experts. These schools help to introduce the best world practices and technologies into the educational process.

## 6.4 KBTU events

KBTU conducts educational events such as seminars and workshops aimed at developing skills in the field of sustainable development. For example, cybersecurity seminars for smart cities and internship programs with international experts from the UN and leading European universities provide students with the opportunity to study the topic of sustainable development in depth and obtain international certificates.



KBTU is also actively developing educational programs and courses. In 2023, 6 new educational programs and 9 continuous and professional education programs were opened with a total audience of more than 600 people per year. In accordance with the Memorandum of Cooperation with the NBRK, 14 grants for the full cost of tuition for new programs were utilized, including MBA in macrofinance and financial technologies.

A new educational program, "Management and Business Economics," was developed and implemented for 98 senior and middle managers by order of the construction company BI Group. The introduction of new Master's programs, such as "Strategic Risk Management," also confirms KBTU's commitment to developing students' competencies.

In cooperation with international universities, KBTU conducts summer schools and workshops where students have the opportunity to work on real projects under the guidance of experts. This ensures the introduction of the best world practices into the educational process and helps students become more competitive in the labor market.

### **6.5 Achieving the international level of KBTU students:**

Since 2017, KBTU has been actively participating in this competition, held by the Association. "KAZENERGY" with the support of "Shell Kazakhstan". Every year our teams show outstanding results, confirming the high level of training and creativity of KBTU students. Two teams from Alma Valley, Dronette and Aqua Save, reached the final of the competition. This year, the Dronette team won a prize with their innovative project, which uses drones to deliver medicines and emergency aid to hard-to-reach regions of Kazakhstan. The team members - Diana Butakova, Kristina Mlikova and Sakush Kamila - demonstrated a high level of engineering thinking and social responsibility, which are so necessary in the modern world. As a reward, the winners received a grant of 2,350,000 tenge to conduct research in the field of energy, ecology and reduction of emissions into the environment. This will be an important contribution to their projects and the idea of sustainable development. The second team, Aqua Save, also reached the final. Their project is a complex system consisting of a floating drone and coastal cameras. The drone, equipped with a neural network and 3D cameras, scans water bodies, detects garbage and removes it efficiently, making it an indispensable assistant in environmental protection. The goal of the Student Energy Challenge is to stimulate innovation among young professionals and support new ideas that contribute to sustainable development. ([https://kbtu.edu.kz/ru/latest-news/4688-studenty-kbtu-pobedili-na-student-energy-](https://kbtu.edu.kz/ru/latest-news/4688-studenty-kbtu-pobedili-na-student-energy-challenge-2024)

[challenge-2024](https://kbtu.edu.kz/ru/latest-news/4688-studenty-kbtu-pobedili-na-student-energy-challenge-2024) )



## СТУДЕНТЫ КБТУ ПОБЕДИЛИ НА “STUDENT ENERGY CHALLENGE 2024”



In April 2024, the KBTU student team was included in the list of the 100 best teams in the world according to Google. This significant achievement highlights the high level of training of KBTU students and their ability to solve complex problems at the global level. Participation in international competitions contributes to the development of students' skills and knowledge, which directly supports SDG 4, aimed at ensuring quality education and developing innovative approaches. (<https://kbtu.edu.kz/en/latest-news/4299-kbtu-student-team-is-included-in-the-list-of-100-best-teams-in-the-world-according-to-google> )



The Kazakh-British Technical University (KBTU) has found itself in the spotlight at the International Programming Contest ICPC 2024. The university team successfully solved one of the most difficult problems of the finals, which attracted international recognition, confirming the high level of preparation of Kazakhstan in the global programming arena.

<https://inbusiness.kz/ru/news/studenty-kbtu-pokazali-vysokie-rezultaty-v-finale-mirovoj-icpc> ) ICPC (International Collegiate Programming Contest) is an international programming competition held among university students, inbusiness.kz reports. It is considered one of the most prestigious in the field of computer science and programming, as it helps develop programming and algorithmic thinking skills, and also serves as a platform for interaction between universities and companies. Participation in this Olympiad opens the doors for future specialists to start a career in major global IT companies. This year, the international Olympiad was held from September 15 to 20 in Astana - more than 1,400 participants from 50 countries. Student teams from such universities as MIT, Harvard, KAIST, Tsinghua, Oxford, MIPT, etc. participated.





For the first time in the country's history, the KBTU team received an award as the first among 140 teams from around the world to solve a complex task (problem D). By the way, the KBTU team has been selected for the ICPC World Finals 8 times already - this is the best result in the Republic of Kazakhstan.

This year's final team includes KBTU students: Amanbol Kanatuly, Ivane Topuria, Dinmukhamed Tursynbay and Alimzhan Amanov, the team coach, teacher, and coordinator of the School of Information Technology and Engineering.



# 7. SDG 9: Industry, Innovation and Infrastructure

## 7.1 Cybersecurity Project: Smart Cities Infrastructure Management

The Kazakh-British Technical University (KBTU) is actively developing initiatives in the field of cybersecurity, including smart city infrastructure management. One of the significant aspects of this project is the creation of intelligent networks that ensure reliable management of urban infrastructure and protection from cyberattacks. As part of its work on cyberinfrastructure, KBTU also organizes various events, such as international competitions and cybersecurity Olympiads, in which students and young professionals participate. For example, KBTU holds annual hackathons and cybersecurity championships, attracting experts from various countries to share experiences and develop practical skills among participants. These events help raise awareness of modern cybersecurity threats and strengthen skills in protecting information systems. In addition, KBTU cooperates with large IT companies and government agencies to integrate cybersecurity best practices into educational programs and develop innovative solutions that promote the safe use of technology in smart cities. Thus, the university not only focuses on the theoretical aspects of cybersecurity, but also actively forms a community of specialists ready to solve modern challenges in this area.

## 7.2 Case Championship on Risk Management

The first case championship in risk management in Kazakhstan, with 39 teams from 22 educational institutions participating. This championship helps students develop practical skills and apply theoretical knowledge in real conditions. The KBTU Case Championship in Risk Management, organized jointly with the Agency for Regulation and Development of the Financial Market and the State Credit Bureau, is a significant event in the educational and innovative sphere. Participants developed an analytical service for modeling the risks of borrower default, which allows for the application of modern approaches to risk management. The presented tasks, using machine learning and statistical models, provide practical experience in the field of innovation and support SDG 9 (Innovation and infrastructure) and SDG 8 (Decent work and economic

height)([Optimism.kz](https://optimism.kz) - [Success Stories](#) ).



The Kazakh-British Technical University JSC offers Master's degree programs in Financial Risk Management and Data Science, Macrofinance and Data Science, and Financial Technologies. The goal of the programs is to train qualified personnel for the National Bank and its subsidiaries, as well as the Agency for Regulation and Development of the Financial Market of the Republic of Kazakhstan. The programs train specialists in finance, economics, financial technologies, accounting, risk management, statistics, econometrics, mathematics, machine learning, and

programming. <https://nationalbank.kz/ru/news/informacionnye-soobshcheniya/15475>

### 7.3 ESG Lab of the KBTU Project Management Office

In 2024, KBTU hosted a meetup event dedicated to current issues of Sustainable Development and the role of technology in solving them. The organizers were the ESG Lab of the KBTU Project Management Office and the NGO CAICA (Climate Action Initiative Central Asia). CAICA is a community for the support and development of environmentally sustainable projects and entrepreneurs. ESG Lab is a new division of the KBTU Project Management Office, focused on the implementation of ESG transformation tasks and the global ESG agenda for universities, including through support for projects in the environmental, social and corporate spheres. About 50 experts from leading specialized analytical centers and development institutions, companies in the field of subsoil use, ESG consulting and green entrepreneurship, the student community and the KBTU business incubator took part in the Meetup. During the discussion, the activities of the ESG Lab of the KBTU Project Management Office and the NGO CAICA were presented, and the opportunities

participation in joint projects and events. Also, experts from KBTU, AlmaU, and the International Educational Corporation (IEC) spoke about the areas of training specialists in the field of green professions. Meetup allowed those present to exchange opinions on pressing issues of Sustainable Development, including in terms of personnel training, biodiversity conservation, development of green entrepreneurship, and development and implementation of green technologies.

### **7.4 ESG Landscape: Facets of Digital Transformation, Innovation, and Sustainability Metrics**

KBTU actively supports the development of innovations and ESG practices within the framework of sustainable development, which is fully consistent with the goals of SDG 9 aimed at developing sustainable infrastructure. The holding of a specialized session on April 19 on the topic "ESG landscape: facets of digital transformation, innovation and sustainability metrics" demonstrates the university's commitment to the implementation of advanced technologies. This event emphasizes KBTU's desire to strengthen its role as a leading educational and scientific center capable of developing and implementing innovations for the benefit of society and the economy.



### **ESG TRANSFORMATION: SYNERGY OF SCIENCE AND BUSINESS**



### **7.5 Central Asian Research Forum on Sustainable Development**

The Fourth Central Asian Research Forum on Sustainable Development, held from March 15 to 19, brought together scientists and experts from different regions to discuss the importance of science and innovation in the context of the pandemic.

The forum participants included representatives from Kazakhstan, Great Britain and other countries, which created a unique platform for exchanging ideas and best practices.

practices.  
Kazakhstan's Ambassador to the UK Erlan Idrissov noted that human capital is a key resource for the country, and stressed the importance of supporting young scientists and their interaction with the global scientific community. The speakers discussed the role of innovation and scientific development in increasing the competitiveness of the Kazakh economy.

The forum also focused on relevant topics such as corporate innovation and women's empowerment, which are in line with the Sustainable Development Goals.

Brainstorming sessions facilitated the development of joint strategies to develop the region's innovation ecosystem.[UNDP](#)



## 8. SDG 5: Gender equality

### 8.1 Supporting Afghan women through educational programs

The programme, funded by the European Union (EU) and implemented by UNDP, enables Afghan women to study in higher education institutions in Kazakhstan and Uzbekistan. The initiative aims to create higher education opportunities for women from Afghanistan. In total, 50 women will study in universities in Central Asia by 2025 under the programme.

The first group of Afghan women arrived in Almaty in October 2019. In 2020, Kazakhstan and Uzbekistan welcomed the remaining winners of the educational scholarship. After completing the language courses, the project participants will study at various universities in Kazakhstan and Uzbekistan on bachelor's, master's and additional technical education (technical and vocational education and training) programs in the fields of agriculture, finance/statistics and mining.

<https://shp.p.m.wlwn.unnodsp.io/rg/kazakhstan/news/afghan-women-completed-their-masters-degrees-kazakh-universities>

A total of 48 Afghan women are studying at KBTU. Today, in 2024, 12 Afghan students continue their education at KBTU. Two of them are studying Finance/Statistics, and three are studying Marketing programs of Technical and Vocational Education and Training. In 2023, fifteen graduates of the MBA Marketing program and another seven students of the Bachelor's degree Marketing will study at KBTU until 2026. 2020-2022. 18 completed training in vocational education and training programs and 15 received a master's degree in the MBA Finance/Statistics program. 2021-2022. KBTU trained 11 students from Afghanistan at the Faculty of Geology and Geological Exploration under the Technical and Vocational Education and Training program "Mining".



## 8.2 Projects

In June 2024, KBTU, in collaboration with UNICEF, held a hackathon dedicated to the creation of digital public goods with the participation of 50 schoolgirls. This project is aimed at supporting girls in the field of STEAM (science, technology, engineering, art and mathematics). The participants took an online course developed by GameLab KBTU and UNICEF, where they learned to create digital products based on open source code and artificial intelligence. A hackathon on the creation of Digital Public Goods with the participation of girls was held at the site of the Kazakh-British Technical University (KBTU). Fifty Kazakhstani schoolgirls took part in the hackathon. Earlier, they took a special online course as part of the DPG Lab program, to support girls in the fields of STEAM (natural sciences, technology, engineering, creativity and mathematics), created by the United Nations Children's Fund (UNICEF).



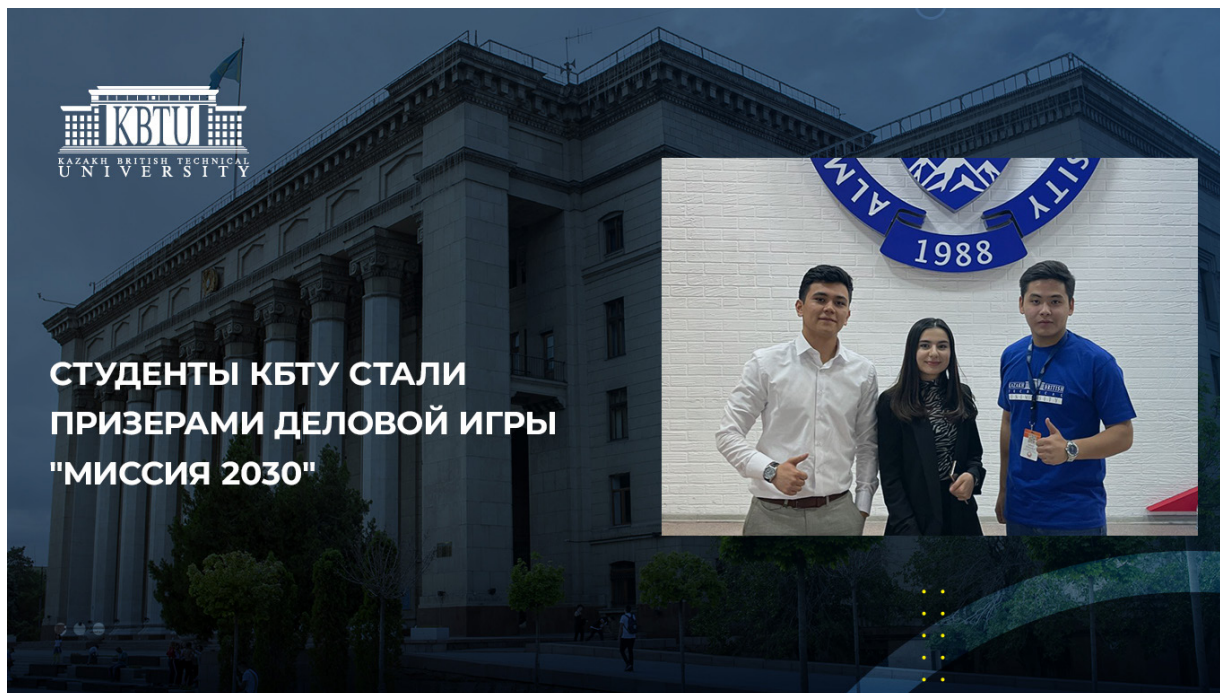
The program is developed with a gamified approach from GameLabKBTU with an emphasis on a collaborative learning environment and cooperation. Digital public goods (DPG) are digital products and services that provide significant public benefits, such as: open educational resources, open source software, open artificial intelligence systems, open standards, etc. Having mastered the basic skills and principles associated with the creation of digital products, the use of artificial intelligence in the context of Digital Public Goods, the girls completed a task in teams to create their DPG project, which they were able to present during the hackathon in Almaty.

<https://digital.unicef.org/kazakhstan/en/press-releases/unicef-and-kbtu-held-hackathon-public-goods-participation-girls> )

### 8.3 KBTU events

On October 20, 2022, KBTU students took part in the business game "Mission 2030" organized by AlmaU. Our students won the game:

- Farzona Kadyrova, student 4th year Business School, youth leader in the direction of SDGs - gender equality (<https://kbtu.edu.kz/mission-2030-business-en/latest-news/2773-kbtu-students-became-winners-of-game> )





# 9. SDG 17: Partnerships for Sustainable Development

## 9.1 International cooperation and exchange of experience in the implementation of SDGs

KBTU actively cooperates with international organizations and universities, which allows it to attract experts and advanced technologies. These partnerships strengthen KBTU's position as a leader in the field of sustainable development.

In 2021, the Sustainable Development Goals Center (SDG Center) was established to promote the implementation of the SDGs through educational programs, international projects, and research initiatives. The main mission of the Center is to develop the potential of students and professionals, teach them modern skills in the field of sustainable development and ESG (environmental, social, and corporate governance), and support innovative research.

Kazakh-British Technical University (KBTU) is actively implementing a strategy of international cooperation to achieve **Goals 17: Partnership for Sustainable Development**. By interacting with the world's leading educational and research institutions, KBTU creates a solid foundation for exchanging experience and developing innovative solutions aimed at

support for the SDGs.

One of the key areas is the development of dual education programs. For example, KBTU offers joint programs with **University of London** (UK), which provide students from the International School of Economics with double degrees. Other partner programmes include a Master of Science in Chemical Engineering with **Ecole Nationale Superior des Mines de St-Etienne** (France), Master's degree in IS and Management **Shanghai Polytechnic University** (China). These programs not only promote academic exchange, but also strengthen global connections between universities to develop solutions for sustainable economic and social development.

KBTU also actively participates in international scientific initiatives. In cooperation with **UNECE** (United Nations Economic Commission for Europe), University is establishing working groups on sustainable resource management in Central Asia. This partnership aims to support the energy transition and promote more efficient resource management, which is in line with the SDG targets related to sustainable urban development and industrial innovation.

In addition, KBTU's international partnership with leading universities such as , opens up new horizons for students and teachers in knowledge exchange and

technologies. These initiatives promote the development of information technology and management programs, which equip students with the necessary skills to address global sustainability challenges.

development.

Thus, KBTU's international cooperation plays a key role in implementations **Goals 17**, providing opportunities for collaborative research, knowledge sharing and strengthening global networks that contribute to the achievement of other Sustainable Development Goals such as quality education, innovation and sustainable infrastructure development.

## 9.2 KBTU events

KBTU strengthens international cooperation to promote the SDGs. Forums and joint projects with UNDP and other international organizations contribute to the development of partnerships and the promotion of new ESG practices. The university is actively working to expand green technologies, interacting with global experts in the field of sustainable development.

Partnership is an important element in the implementation of SDG 17, and the ESG session demonstrated KBTU's ability to build long-term international and national connections. Discussing global trends in ESG practices and sustainability demonstrated the university's readiness to collaborate with leading experts and organizations. These initiatives strengthen KBTU's role as a platform for knowledge sharing and promoting global cooperation in

areas of sustainable development.

The final round took place on April 13, 2024, at Independence Hall.

Video competition "SDG Impact Challenge" among 1st year students of KBTU. The main goal of the event is to increase students' motivation in studying the 17 UN Sustainable Development Goals by creating a social video. The organizer of the Video Competition was the English Language Sector of the School of Natural and Social Sciences with the support of the KBTU rector's office <https://kbtu.edu.kz/>

[ru/latest-news/4321-final-sdg-impact-challenge](https://kbtu.edu.kz/ru/latest-news/4321-final-sdg-impact-challenge) .



## 10. Institute "One Belt, One Road"

KBTU is actively involved in the Belt and Road Initiative, which provides the university with unique opportunities to expand its educational programs and scientific exchange. This institute is aimed at developing oil and gas projects, which contributes to the improvement of students' qualifications and their integration into the international labor market. Attracting students from countries participating in the initiative enhances cultural diversity and creates a platform for the exchange of knowledge and experience.



Director of the Institute Professor Askarova S.B. actively works to ensure high quality of educational programs and scientific research focused on the development of international relations. This cooperation opens up new horizons for KBTU in terms of participation in joint initiatives and research, which in turn helps strengthen the university's position in the international arena. The grand opening of the Petroleum Engineering Institute "One Belt, One Road" was held on September 22, 2018 by the President of China University of Petroleum - Beijing Zhang Laibin and the Rector of KBTU Kenzhebek Ibrashev in Beijing, after the Grand Opening of the International Association of Energy Universities (IAEU).

### Mission of the Institute

Promoting internationalization and creating a sustainable platform for developing cooperation in education, science and entrepreneurship in the global educational and scientific space within the framework of the "One Belt, One Road" program.

#### The purpose of the Institute

Consolidation of the scientific and innovative potential of universities, research institutes and the manufacturing sector to implement scientific and technological support for the One Belt, One Road program and the training of outstanding talents recognized worldwide, competent in engineering and innovation in the field of energy.

#### Priority of the Institute

Ensuring the transfer of advanced foreign technologies and knowledge, their adaptation to improve the quality of oil production, preparation and refining processes, as well as the training of a new generation of competent engineering and technical personnel.

#### Activities of the Institute

Development of strategic partnerships with foreign advanced research universities and innovation centers, transnational companies and funds of countries participating in the “One Belt, One Road” program, transfer of foreign experience, knowledge and technology for the production of new technologies and materials, as well as ensuring high-quality growth

engineering and technical workers in the oil industry.

The main areas of activity are conducting joint scientific and technical research within the framework of international projects, exchange of scientific, technical and academic knowledge, scientific internships and exchange of staff and students, development of scientific research infrastructure aimed at performing research at a high international level, joint training of engineering and scientific personnel, organization of joint international conferences and trainings to improve the qualifications of engineering and technical personnel of companies.

The Belt and Road Institute, in partnership with China Universities of Petroleum, will carry out multidisciplinary cooperation and develop scientific and technological foundations in exploration, production, enhanced oil recovery and oil field chemistry, and conduct research in the following areas:

- Scientific foundations and technologies of chemical enhanced oil recovery.
- Development of methods for intensifying drilling in oil and gas fields collectors.
- Scientific foundations and technologies of well environmentally friendly workers, drilling and fracturing fluids.
- Environmental risk management in oil and gas production.
- Drilling technologies in deep and ultra-deep complex mineral formations formations.



- Colloidal-chemical approach to the introduction of surface-active, alkaline, polymer and combined flooding technologies in heterogeneous reservoirs.
- Design and development of environmentally friendly nanomaterials for chemical working fluids. 36
- Multiscale multiphase flow in porous media.

The Kazakh-British Technical University is committed to developing relations with China and has established links with 15 Chinese universities and companies over the past year.

Potential international partners of the Belt and Road Institute are 28 energy universities-members of MAEU in 16 countries, including China, the USA, the UK, Canada, Germany, France, Denmark, Australia, Brazil, Russia, Kazakhstan, Azerbaijan, Turkmenistan, the United Arab Emirates, Vietnam and Malaysia.

# 11. Impact and results

KBTU has trained over 100 specialists in cybersecurity, energy management and circular economy. The university actively implements the principles of sustainable development and develops innovative solutions for urban infrastructure and resource management. As a result of participation in international projects and initiatives, KBTU has significantly strengthened its position in the field of scientific research, expanding the network of partnerships and exchange of experience with leading universities around the world.

Successful programs and courses implemented within the framework of the SDGs contribute to the formation of a new generation of specialists capable of solving modern challenges and contributing to the sustainable development of the country. KBTU is actively working to improve its academic reputation, which is confirmed by participation in international rankings and projects, as well as an increase in the number of international publications and scientific articles, which demonstrates the high level of scientific activity at the university.

KBTU demonstrates its commitment to the SDGs and actively supports their implementation through educational programs, international projects and innovative solutions. The university plays a key role in promoting the principles of sustainable development in Kazakhstan and beyond, working to solve global problems and implement innovative technologies to create a sustainable future.

KBTU continues to increase its efforts to develop and support environmentally friendly technologies, strengthen the social and economic aspects of sustainable development, and form a new generation of specialists ready to solve modern challenges. The University strives to expand partnerships and launch new projects aimed at implementing the Sustainable Development Goals, thereby contributing to the creation of a sustainable future for Kazakhstan and the world.

## 12. Plan for achieving the SDGs at KBTU for 2024-2025.

Month	Event	Quantitative indicators	Quality indicators	Potential partners	Target audience
October 2024	IoT Seminar for smart people cities ("IoT for Smart City")	100+ participants, 5+ reports	Implementation solutions Internet of Things for the city management	International IoT experts	Students-urbanists, engineers, representatives urban authorities
November 2024	Workshop on artificial intelligence for smart cities	50+ participants	Implementation AI solutions for management urban infrastructure	IITU, international experts	IT students, engineers, researchers
December 2024	Publication report on SDG projects	10+ projects in annual report	Contribution assessment KBTU in implementation of SDGs, development of new initiatives	UNDP, partners KBTU, international experts	Teachers, students, researchers
January 2025	Update educational SDG programs	5+ new courses	Update and optimization programs on based on trends in a stable development	British-Kazakh Society, Kings College London	Students, teachers
February 2025	Launch of new partnerships SDG projects	3 new international project	Turning on students in joint SDG projects	British-Kazakh Society, IITU	Students Master's degree, teachers



March 2025	Workshop on circular economy and AI	50+ participants, 2 workshop	Implementation of AI for solution problems circular economics	IITU, British-Kazakh Society	IT students, teachers, experts in areas sustainable development
April 2025	Workshop on the green energy	Participation 100+ Human	Discussion decisions on renewable sources energy	British-Kazakh Society, IITU	Students, young scientists, specialists in energy
May 2025	Publication scientific articles on a sustainable basis energy	5+ articles in international magazines	Height academic reputation and influence of KBTU in sustainable energy	International Magazines, Kings College London	Teachers, researchers
June 2025	Summer school on SDGs for students Central Asia	Participation 80 students from region	Formation new regional initiatives to SDG	UNDP, British-Kazakh Society, IITU	Students from Kazakhstan, Kyrgyzstan, Uzbekistan

**Key indicators:**

- **Quantitative:** number of participants in events, publications, workshops, projects.
- **Quality:** influence on the student and academic environment, development infrastructure for sustainable development, increasing international cooperation.



## Contact Information

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