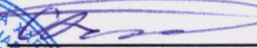


APPROVED
President of Astana
International University



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SUSTAINABILITY & SDG REPORT (Full Version for SDG 1–17)

Astana, 2024

1. Introduction

Astana International University (AIU) is committed to advancing the United Nations Sustainable Development Goals (SDGs) through education, research, governance, and community engagement. Sustainability is embedded in AIU's mission to nurture socially responsible citizens and innovative leaders. The university integrates the SDGs into its academic and operational strategies through the International Center for Sustainable Development and Cooperation (ICSDC), aligning its activities with Kazakhstan's strategic priorities and global sustainability frameworks.

2. Governance and Policy Framework

AIU has established a robust governance structure to oversee sustainability initiatives. The International Center for Sustainable Development and Cooperation (ICSDC) and the Center for Environmental Research and Education coordinate implementation of SDG-related projects, awareness programs, and partnerships. The university leadership, including the President who chairs the Public Council for Science, Higher Education and Language Policy under the Ministry of Science and Higher Education, ensures alignment of AIU's strategies with national SDG priorities.

3. AIU's Contribution to the 17 Sustainable Development Goals

№	SDG	AIU's key contribution	Description
1	No Poverty	Scholarships and grants for students from vulnerable backgrounds	AIU contributes to SDG 1 by increasing access to education and employment for students from low-income families. The university provides state, regional, and corporate grants, as well as scholarships from the “Kazakhstan Khalkyna” Foundation. Paid internships and career training programs help students reduce financial risks and secure sustainable income after graduation.
2	Zero Hunger	Educational projects on sustainable agriculture	AIU implements SDG 2 through research and training focused on food security and sustainable agriculture. Within Zhas Galym projects, students participate in analyzing agricultural resources and rational land use. The university organizes eco-fairs and

			campaigns on responsible consumption and supports projects promoting sustainable farming and biodiversity
3	Good Health & Well-being	Mental health and healthy lifestyle programs	AIU contributes to SDG 3 through a systematic approach to promoting physical and mental health. The university maintains a permanent Psychological Support Service providing counseling and assistance to students and staff, conducts regular lectures on healthy lifestyles, and collaborates with medical organizations to promote disease prevention and health education. The course “Ecology and Life Safety” enhances awareness of health and safety issues.
4	Quality Education	Inclusive education and teacher training	AIU supports SDG 4 by ensuring access to quality and inclusive education at all levels. Topics of sustainable development, digitalization, and inclusive learning are integrated into academic programs. Through dual-degree programs with universities in China, Turkey, and the USA, AIU expands academic mobility and global cooperation. The project AP22686869 “Development of the digital platform ‘E-Inclusion’ for the education and social adaptation of children with mental and other disorders” promotes inclusive education and social integration.
5	Gender Equality	Gender balance in academic and administrative positions	AIU advances SDG 5 by ensuring equal opportunities for women in education, science, and governance. Over 65 % of AIU staff and 70 % of students are women. Under the Zhas Galym program, researcher D. Aikenova leads the project “Women in the Political Process of Kazakhstan: Quotas, Gender Stereotypes, and Behavioral Patterns”, which develops policy recommendations

			for inclusive governance and women's representation.
6	Clean Water & Sanitation	Water conservation projects	AIU promotes SDG 6 through research on water resource management and water quality monitoring. Ongoing projects include drilling waste recycling, wastewater treatment, and ensuring transboundary water security between Kazakhstan and Russia.
7	Affordable & Clean Energy	Research on hydrogen energy	AIU contributes to SDG 7 through Green Innovation and Zhas Galym projects dedicated to renewable energy development. The project AP19175789 "Development of Hydrogen Energy in Kazakhstan and International Energy Security: Experience of EU Countries" focuses on clean energy transition. The university has installed solar panels on campus, conducts seminars on energy efficiency, and supports low-carbon economy research.
8	Decent Work & Economic Growth	Career Center and Entrepreneurial Training	AIU promotes SDG 8 through its Career and Employment Center, job fairs, and student entrepreneurship programs. The project "Integration of People with Disabilities into the Labor Market" supports inclusive employment practices.
9	Industry, Innovation & Infrastructure	Research on digitalization and innovation	AIU contributes to SDG 9 through its AIU Innovation Hub and the School of IT and Engineering, supporting projects on digital tourism, artificial intelligence, smart infrastructure, and green technologies.
10	Reduced Inequalities	Support for students with special educational needs	AIU ensures equal opportunities for all students, including persons with disabilities, international students, and those from rural regions. The E-Inclusion (AP22686869) project and targeted grants for socially vulnerable groups demonstrate AIU's commitment to inclusiveness.

11	Sustainable Cities & Communities	Cooperation with EcoJer and Clean City Astana	AIU promotes SDG 11 through sustainable urban development initiatives. The Astana Urbanitarium brings together youth, ecologists, and professionals to discuss urban sustainability. Students participate in eco-campaigns and research on urban ecology, contributing to the development of a green Astana.
12	Responsible Consumption	Recycling and digital document management campaigns	AIU supports SDG 12 through Clean & Green AIU initiatives, digital document management, and waste reduction programs. Ongoing research focuses on plastic sorting and recycling using neural networks.
13	Climate Action	Emission reduction and environmental education projects	AIU advances SDG 13 through the installation of solar panels, research on climate adaptation, and education on sustainable development. The project AP19175789 (Hydrogen Energy) contributes to decarbonization and the transition to clean energy.
14	Life Below Water	Educational initiatives for the protection of aquatic ecosystems	Although Kazakhstan has no seas, AIU contributes to SDG 14 through research on freshwater ecosystems and biodiversity conservation. The project AP23488845 “Spatial Distribution and Assessment of Populations of Rare and Vulnerable Plant Species in Central and Northern Kazakhstan” includes monitoring of aquatic biodiversity. Students study water quality and propose pollution prevention measures.
15	Life on Land	Biodiversity research and tree planting	AIU contributes to SDG 15 through research on Kazakhstan’s flora, including rare and endangered plant species in national parks. The university organizes tree-planting campaigns and ecosystem monitoring in steppe regions.
16	Peace, Justice & Strong Institutions	Courses on law, ethics and management	AIU supports SDG 16 by promoting a culture of academic

			ethics, transparent governance, and civic responsibility. The university participates in research on anti-corruption mechanisms and comparative legal studies.
17	Partnerships for the Goals	International cooperation and participation in the ratings of THE, QS	AIU actively implements SDG 17 through its International Center for Sustainable Development and Cooperation, which coordinates research and academic mobility. The university participates in THE Impact Rankings and the Sustainability Impact Network, strengthening global partnerships to achieve all SDGs.

4. Science and Innovation

Astana International University (AIU) implements more than 20 interdisciplinary research projects within the framework of the national programs “*Zhas Galym*”, grant-based and program-targeted funding (PTF). The projects focus on the development of **hydrogen energy**, **digital inclusion**, and **sustainability research**.

The university’s faculty members and researchers actively participate in international conferences and publish their findings in **high-ranking journals indexed in Web of Science (Core Collection) and Scopus**, thereby contributing to global knowledge exchange and advancing the United Nations Sustainable Development Goals (SDGs).

In 2024, AIU’s research activities covered a wide range of SDGs:

SDG 2: Zero Hunger

- Integrating numerical methods and machine learning to optimize agricultural land use. *Tynykulova, A., Mukhanova, A.A., Mukhomedyarova, A.S., Alimova, Z., Tasbolatuly, N., Smailova, U., Kaldarova, M.Z., Tynykulov, M.K. // International Journal of Electrical and Computer Engineering, 2024. DOI: 10.11591/ijece.v14i5.pp5420-5429*

SDG 3: Good Health and Well-being

- Assessing risk factors for heart disease using machine learning methods. *Maxutova, N., Tussupov, J.A., Kedelbayeva, K., Khamitova, Z., Zhunussova, K. // International Journal of Electrical and Computer Engineering, 2024.*
- Establishing a classification of the stages of progression of the novel coronavirus infection. *Sokharev, Y., Yskak, A., Zhumalynov, K., Yermoldina, G.T., Baksheev, A.I. // Advancements in Life Sciences, 2024.*

- Perceived and Physical Quality of Drinking Water in Pavlodar and Akmola Rural Regions of Kazakhstan. *Beisenova, R.R., Tussupova, K., Tazitdinova, R.M., Nugmanov, A., Zhupysheva, A.O. // Sustainability (Switzerland), 2024.*

- Pharmacological evaluation of *Rhodiola rosea L.* extract from the Kazakh ecosystem. *Zhumagul, M.Z., Rašeta, M.J., Mišković, J., Shaikhymbekova, R., Kusmangazinov, A. // Farmacia, 2024.*

SDG 4: Quality Education

- Gamification as a Tool for Personalized Learning in Inclusive Education. *Baumuratova, D., Zhukabayeva, T., Rakhimzhanova, M.B. // UBMK 2024 Proceedings of the 9th International Conference on Computer Science and Engineering, 2024.*

SDG 5: Gender Equality

- Combating Domestic Violence: Developing Legislative and Socio-Organizational Measures to Protect Women in Kazakhstan. *Zhubandykova, L., Borchashvili, I., Tuleugalieva, Z. // Balkan Social Science Review, 2024.*

SDG 6: Clean Water and Sanitation

- Monitoring the Environment and Recycling Approaches for Managing Oil and Drilling Waste. *Karabalayeva, A.B., Abilova, S.B., Sihanova, N.S., Ibadullayeva, S., Kokanbek, Z. // Instrumentation, Mesure, Metrologie, 2024.*

- Water Security of the Kazakhstan-Russia Border River Basins: Kazakhstan's Perspective. *Abdrakhmanov, K.A., Golunov, S.V., Muzdybayev, M.A., Karakulov, Y.M., Kabdeshev, A. // Vestnik Volgogradskogo Gosudarstvennogo Universiteta, 2024.*

- Optimization of Water Resources Management Using Big Data and Machine Learning in Smart Cities. *Akhayeva, Z.B., Zakirova, A.B., Zhmud, V.A. // Eurasian Journal of Mathematical and Computer Applications, 2024.*

- New Color-Changing Sorption Material for Effective Removal of Heavy Metals from Wastewater. *Kambarova, E.A., Bektenov, N.A., Bazarbaeva, K.Z., Bolysbekova, S.M., Gavrilenko, M.A. // Bulletin of the Tomsk Polytechnic University, 2024.*

SDG 7: Affordable and Clean Energy

- Atomistic insights into intermolecular formation of deep eutectic solvents... *Nurmanova, S., Aimaganbetov, K.P., Abdrakhmanov, K.A., Kabdrakhimova, G.D., Abdirashev, O.K. // Ionics, 2024.*

- The role of hydrogen in ensuring Kazakhstan's energy security. *Ibrayeva, A.R., Koshanova, S., Irsaliyev, S., Nurdavletova, S., Kukeyeva, F.T. // Polityka Energetyczna, 2024.*

- Conformation Factors of Building Bioclimatic Microclimate. *Sakenova, S., Konbr, U., Kisselyova, T., Mugzhanova, G., Amandykova, D.A. // Civil Engineering and Architecture, 2024.*

SDG 8: Decent Work and Economic Growth

- Social entrepreneurship as a catalyst for addressing inequalities and promoting sustainable development. *Okutayeva, S.T., Askerov, E.K., Smagulova, Z.K., Yesmagulova, N.D., Kaidarova, S.E. // Rivista Di Studi Sulla Sostenibilita, 2024.*

- Personal protective equipment detection using YOLOv8 architecture. *Barlybayev, A.B., Amangeldy, N., Kurmetbek, B., Turebayeva, R. // Cogent Engineering, 2024.*

SDG 9: Industry, Innovation and Infrastructure

- Enhancing Real Estate Valuation in Kazakhstan: Integrating Machine Learning and Adaptive Neuro-Fuzzy Inference System. *Barlybayev, A.B., Ongalov, N., Sharipbay, A.A., Matkarimov, B.T. // Applied Sciences (Switzerland), 2024.*

- Development of a Decision-Making Module in the Field of Real Estate Rental Using Machine Learning Methods. *Mukhanova, A.A., Baitemirov, M., Ignatovich, A., Bapiyev, I.M., Mukhamedrakhimova, G. // International Journal of Electrical and Computer Engineering, 2024.*

- School or Home: Exploring the Impact of Digital Infrastructure on Digital Literacy of School-Age Young People. *Joshkun, S., Kurmanov, N.A., Kabdullina, G.K., Satbayeva, A., Utegenova, Z.S. // Journal of Infrastructure Policy and Development, 2024.*

SDG 10: Reduced Inequalities

- Kazakh-European Trade and Economic Relations. *Nursultanova, L.N., Kassymova, A., Shlymova, G., Bokayeva, A., Suleimenova, G. // Asian Journal of Political Science, 2024.*

SDG 11: Sustainable Cities and Communities

- New Data on Phytochemical and Morphophysiological Characteristics of Conifer Trees in Polluted Urban Areas of Kazakhstan. *Yerezhepova, N., Kurmanbayeva, M.S., Terletskaya, N.V., Jalmakhanbetova, R.I., Razhanov, M. // Forests, 2024.*

SDG 12: Responsible Consumption and Production

- Natural Resources of *Rhaponticum carthamoides* in the Tarbagatai State National Nature Park. *Myrzagaliyeva, A.B., Irsaliyev, S., Tustubayeva, S., Aidyn, O., Alemseitova, Z. // Diversity, 2024.*

- Advanced Convolutional Neural Networks for Plastic Classification in Recycling Systems. *Alimbekova, N., Zhumadillayeva, A.K., Aiymbay, S. // UBMK 2024, 2024.*

SDG 13: Climate Action

- The role of hydrogen in ensuring Kazakhstan's energy security. *Ibrayeva, A.R., Koshanova, S., Irsaliyev, S., Nurdavletova, S., Kukeyeva, F.T. // Polityka Energetyczna, 2024.*

SDG 15: Life on Land

- *Fraxinus sogdiana Bunge* forests in Charyn Canyon, Kazakhstan. Salmurzauly, R., Myrzagaliyeva, A.B., Irsaliyev, S., Altynbek, M., Sagynysh, B. // *Caspian Journal of Environmental Sciences*, 2024.

- Molecular Genetic Analysis of Gene Pools of Rare and Endangered Plant Species *Adonis L.* of Northern Kazakhstan. Zhumagul, M.Z., Myrzagaliyeva, A.B., Mukhtubayeva, S., Rustemova, A.D., Bekturova, A. // *Caspian Journal of Environmental Sciences*, 2024.

SDG 16: Peace, Justice and Strong Institutions

- Public Participation in Anti-Corruption Efforts. Tapenova, A., Akparova, R. // *Pakistan Journal of Criminology*, 2024.

- Religious Slaughter and Animal Welfare: A Comparative Legal Study of Kazakh and European Legislations. Mukasheva, A., Ibrayev, A.S., Bolatbekova, I.K., Zhussipova, B.A., Ybyray, N. // *Access to Justice in Eastern Europe*, 2024.

SDG 17: Partnerships for the Goals

- Social Entrepreneurship as a Catalyst for Addressing Inequalities and Promoting Sustainable Development. Okutayeva, S.T., Askerov, E.K., Smagulova, Z.K., Yesmagulova, N.D., Kaidarova, S.E. // *Rivista Di Studi Sulla Sostenibilita*, 2024.

- Water Security of the Kazakhstan-Russia Border River Basins: Kazakhstan's Perspective. Abdrakhmanov, K.A., Golunov, S.V., Muzdybayev, M.A., Karakulov, Y.M., Kabdeshev, A. // *Vestnik Volgogradskogo Gosudarstvennogo Universiteta*, 2024.

5. Community Engagement and Outreach

AIU promotes sustainability through student-led volunteering, NGO partnerships, and community events. The AIU Volunteers Club and the School of Social Entrepreneurship engage students in civic and environmental activities that foster social innovation and responsibility.

6. Monitoring and Progress Indicators

AIU tracks sustainability performance using measurable indicators: number of SDG projects, publications, partnerships, and outreach events. Data collection is managed by ICSDC, ensuring transparency. The university shares progress through national and international platforms.

7. Future Directions

AIU will continue strengthening interdisciplinary research, digital innovation, and global partnerships for sustainability. Plans include developing a Sustainability Strategy 2030 and publishing annual SDG Progress Reports. AIU aims to become a regional hub for education and research on sustainable development.