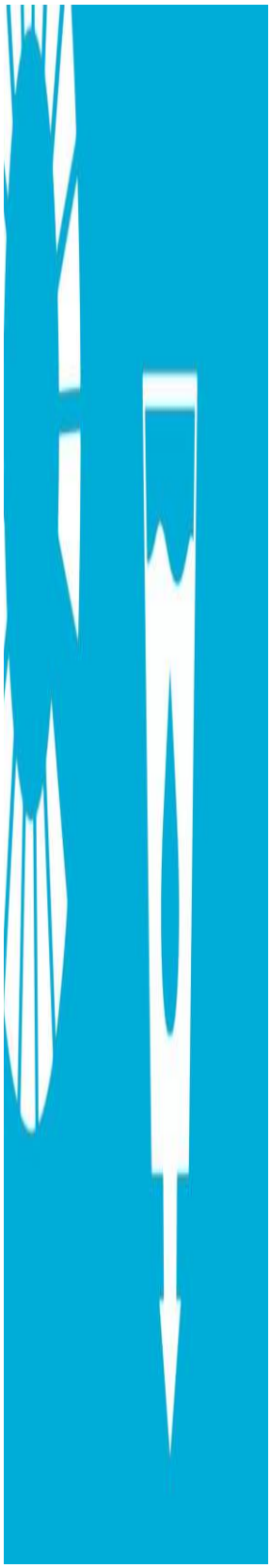
Azerbaijan TECHNICAL University



REPORT ON SUSTAINABLE DEVELOPMENT GOAL 6

CLEAN WATER AND SANITATION

2024

Foreword

Azerbaijan Technical University is committed to supporting the UN's Sustainable Development Goal 6 (SDG 6), focusing on clean water and sanitation. Through reliable infrastructure, collaboration with national agencies, and active education on water conservation, the university plays a key role in promoting responsible water use. With rigorous quality control measures for drinking water, innovative irrigation systems, and a curriculum that emphasizes water management, the university not only sustains its campus needs but also instills sustainable practices in its students and the wider community. This report highlights these efforts, underscoring our dedication to a sustainable water future for Azerbaijan.

Introduction

Azerbaijan Technical University is dedicated to advancing Sustainable Development Goal 6, which emphasizes clean water and sanitation for all. Located in Baku, the university benefits from reliable water sources such as the Jeyranbatan reservoir and the Oguz-Gabala-Baku pipeline, ensuring a steady supply of drinking water. Through partnerships, rigorous water quality testing, conservation measures, and educational initiatives, the university not only meets its own water needs sustainably but also contributes to water security and awareness in the wider community. This report outlines the university's efforts and achievements in promoting responsible water management.

References

National Information Portal on Sustainable Development Goals of the Republic of Azerbaijan

AzTU Sustainability

AzTU SDG 6 Report / November 2023

Azerbaijan TECHNICAL University

SDG 6 - Clean water and sanitation					
Accessible water	Dumping	Inadequate water supply	Rivers	Urban	Wastewater treatment
Affordable drinking water	Equitable sanitation	Infrastructure	Safe drinking water	Untreated wastewater	Water ecosystems
Aquifer	Ecosystem protection	Irrigation	Sanitation	Water scarcity	Water - related ecosystems
Cities	Ecosystem restoration	Lakes	Sanitation and hygiene	Water disasters	Water - use efficiency
Clean water	Floods	Latrines	Sanitation management	Water access	Water supply
Contaminated	Fresh water	Open defecation	Sewerage	Wastewater	Water harvesting
Defecation	Hydro power	Pollution	Sustainable water management	Water resources management	Water quality
Desalination	Hygiene	Recycled water	Sustainable withdrawals	Water efficiency	
Diarrheal diseases	Improving water	Reuse	Toilets	Water	
Drought	Inadequate water	River basins	Third world	Waste	

SDG 6 TARGETS

- **Safe and Affordable Drinking Water**: The university ensures a reliable supply of clean drinking water and monitors water quality to protect campus health.
- **Improve Water Quality and Wastewater Treatment**: In partnership with the State Agency for Water Resources, wastewater is treated offsite, while the university minimizes water waste through efficient irrigation and management practices.
- **Increase Water-Use Efficiency**: Water conservation efforts include the use of drought-resistant plants and advanced irrigation systems to reduce water loss on campus.
- **Integrated Water Resources Management (IWRM)**: IWRM principles are taught in Environmental Engineering courses, promoting sustainable practices among students.
- **Expand International Cooperation**: The university collaborates with local and international bodies, including the UN, on water security projects, fostering capacity-building and sustainable development.
- **Strengthen Local Community Involvement**: Through educational outreach and community events, the university engages local communities in discussions and initiatives around responsible water use.

Statistics and Their Indicators

- **Annual Water Consumption**: The university uses approximately 2,000 cubic meters of water each year.
- **University Population**: An average of 10,774 students (undergraduate and postgraduate) and 734 faculty and staff benefit from clean water access on campus.

- **Water Quality Monitoring**: Drinking water is regularly tested for contaminants, including heavy metals, nitrites, nitrates, and turbidity, to ensure it meets health and safety standards.

- **Irrigation Practices**: The university uses drought-resistant plants and efficient irrigation methods, such as drip and sprinkler systems, to reduce water waste.
- **Material Use**: Modern plastic piping minimizes leakage and reduces water loss.

- **Courses Offered**: Environmental Engineering students are taught courses on Integrated Water Resources Management and Wastewater Treatment, fostering a deeper understanding of water issues.

- **Community Outreach**: Students volunteer in local schools to promote responsible water use, contributing to community awareness.

- **Research Initiatives**: The university collaborates with the Ministry of Ecology, the State Agency for Water Resources, and the UN on water management projects, advancing research and practical solutions for water security.

SDG 6's Positive Impact on Other SDGs

Azerbaijan Technical University's initiatives under SDG 6 (Clean Water and Sanitation) create positive impacts on several other Sustainable Development Goals:

SDG 3: Good Health and Well-being. By ensuring access to safe drinking water, the university contributes to improved health outcomes, reducing the risk of waterborne illnesses for students, staff, and faculty.

SDG 4: Quality Education. Courses in water management and environmental engineering provide students with critical knowledge on sustainable practices, helping to shape future professionals skilled in addressing global water challenges.

SDG 11: Sustainable Cities and Communities. Through its water conservation efforts, the university sets an example of sustainable resource management within urban environments, fostering resilience in Baku's Yasamal district by reducing strain on municipal water systems.

SDG 12: Responsible Consumption and Production. The university promotes efficient water usage through advanced irrigation systems and encourages responsible consumption practices, reducing water waste on campus and cultivating environmentally conscious behaviors.

SDG 13: Climate Action. By conserving water and educating students on sustainable water management, the university helps mitigate environmental impacts linked to climate change, such as water scarcity, contributing indirectly to climate adaptation.

SDG 17: Partnerships for the Goals. Collaborations with local, national, and international bodies, including the Ministry of Ecology and the UN, strengthen partnerships and create synergies that enhance the university's impact on water security and sustainability.

Current Situation

Water Supply and Quality Control

Azerbaijan Technical University benefits from a reliable and sustainable drinking water supply sourced from the Jeyranbatan reservoir and the Oguz-Gabala-Baku pipeline, which serve not only the university but much of the city of Baku. This infrastructure ensures that the university's water needs are met consistently, even as demand grows in the coming decades. Advanced water treatment technologies, such as desalination, disinfection, and filtration systems, are employed to maintain high water quality standards. The university's laboratories conduct regular analyses to test for heavy metals, nitrates, nitrites, and turbidity, ensuring that water meets strict safety standards for the health and well-being of students, staff, and visitors.

Sustainable Water Usage Practices

The university actively promotes water conservation on its campus. With an annual water supply of around 2,000 cubic meters, Azerbaijan Technical University has implemented efficient water management strategies, including the use of drought-resistant plants and advanced irrigation systems. Drip and sprinkler irrigation methods help reduce water wastage in the campus's green spaces, and modern plastic pipes minimize leaks and maximize water delivery efficiency. These

practices not only support campus sustainability but also serve as a model for efficient resource management in urban areas.

Education and Community Engagement

Education on sustainable water management is a core part of the university's curriculum, particularly within the Environmental Engineering program. Students receive hands-on learning in water management and wastewater treatment, fostering an understanding of the importance of sustainable practices. The student association "Eco technologies" and the Department of Chemical Engineering, Processing, and Ecology further promote awareness of water conservation through research and initiatives focused on waste recycling and reuse. Students extend these efforts into the local community by volunteering in nearby schools, where they educate younger students on the importance of water conservation, building a culture of responsibility toward water resources.

Collaborative Efforts for Water Security

In collaboration with the Ministry of Ecology and Natural Resources of Azerbaijan and the State Agency for Water Resources, Azerbaijan Technical University actively contributes to water security efforts on a regional and international level. This includes hosting conferences and participating in projects that address the country's water challenges. For example, the recent Republican Scientific and Technical Conference "Water Resources of Azerbaijan: Problems and New Challenges" brought together community leaders and experts to discuss sustainable water solutions. The university's research

project on “Water Resources Management in the Republic of Azerbaijan” has also been presented to the UN, highlighting its commitment to advancing water security through innovation and partnership.




Future Goals for SDG 6

- **Develop On-Campus Wastewater Treatment:** Establish a small wastewater treatment facility to manage and reuse water on campus, enhancing sustainability and creating educational opportunities.
- **Track and Increase Water Reuse:** Implement systems to monitor and increase water recycling, setting measurable targets to improve campus water efficiency.
- **Expand Community Engagement:** Increase water conservation outreach in local schools and communities through workshops and seminars, reinforcing the university’s leadership in sustainable practices.

- **Strengthen Partnerships:** Build more partnerships with government and international organizations to access resources and develop joint projects on water security.
- **Create a Water Reuse Policy:** Formalize a policy on maximizing water reuse in campus operations to encourage conservation and set reduction goals.
- **Adopt Advanced Water-Saving Technologies:** Use smart irrigation systems and real-time water monitoring to conserve resources and respond swiftly to quality issues.
- **Enhance Water Sustainability Research:** Focus research on topics like water scarcity and climate resilience, positioning the university as a regional leader in water sustainability research.

Conclusion

Azerbaijan Technical University plays an important role in promoting responsible water usage and sustainability in line with SDG 6. The university receives its water supply from national sources and actively conducts water quality tests to ensure the health of its students and staff. While the university does not directly engage in wastewater treatment or water reuse, it prioritizes water conservation through efficient irrigation practices, education, and research. The institution integrates water management topics into its curriculum and encourages student involvement in sustainability initiatives, fostering broader community awareness and cooperation with national water authorities.