



TERMEZ STATE UNIVERSITY

WATER REUSE AND SUSTAINABLE WATER MANAGEMENT POLICY



PREAMBLE AND PURPOSE

Termez State University (TerSU) recognizes that water is a fundamental resource for human health, ecological sustainability, and academic operations. In line with the Constitution of the Republic of Uzbekistan, the Water Code of Uzbekistan, the Law on Environmental Protection, and relevant regulations governing sustainable use of natural resources, the University is committed to responsible water management that minimizes waste, maximizes reuse, and ensures long-term access to clean water for its academic community. This commitment aligns with the United Nations Sustainable Development Goal 6, Clean Water and Sanitation, and the Sustainability Index criteria, which emphasize resource efficiency, environmental stewardship, and institutional leadership in sustainability practices.

The primary purpose of this policy is to provide a comprehensive framework for measuring, monitoring, and reducing water consumption across all TerSU facilities, while promoting the safe reuse of water for non-potable and appropriate operational purposes. By adopting these measures, TerSU seeks to enhance resilience to water scarcity, improve the efficiency of campus operations, and foster a culture of sustainable water use among staff, students, and affiliated communities. This policy also establishes protocols for water system design, treatment, reuse, and education, ensuring that all interventions meet national and international standards for environmental protection and public health.

Through this policy, TerSU aims to embed sustainability into the core functioning of the University, ensuring that water resources are managed effectively across academic, administrative, research, and residential domains. It also seeks to support academic research and student engagement in water sustainability, positioning the University as a leader in responsible water management practices in Uzbekistan and Central Asia.

SCOPE AND APPLICABILITY

This policy applies to all University facilities, including lecture halls, laboratories, administrative offices, dormitories, sports facilities, green spaces, and affiliated

research centers. It governs all aspects of water management, including consumption measurement, wastewater treatment, rainwater harvesting, greywater reuse, irrigation practices, and landscaping, ensuring that every operational decision contributes to sustainable water use. The policy also extends to all University members, including academic and administrative staff, students, contractors, and visitors, who are expected to observe water-saving practices and comply with procedural guidelines.

The University is committed to integrating water sustainability into all capital projects, building designs, and renovations. This includes ensuring that new buildings incorporate water-efficient fixtures, leak-detection systems, and rainwater harvesting technologies, while existing facilities undergo upgrades to reduce wastage and maximize efficiency. Sustainable water management is also embedded in laboratory operations, workshops, and research activities, with strict adherence to safety standards and local regulations, ensuring that hazardous substances or chemicals do not contaminate water resources.

Beyond the physical campus, the policy encourages community engagement, research, and outreach initiatives that promote sustainable water use. Staff and students are expected to actively participate in programs that raise awareness about responsible water consumption, reuse, and conservation practices. The policy further aligns with TerSU's participation in international sustainability initiatives, such as the Sustainability Rankings, reflecting the University's commitment to global benchmarks and best practices in water stewardship.

Measurement and monitoring are central to this policy. The University will track all forms of water usage, including mains water supply, borehole extraction, rainwater capture, and recycled water. These metrics will be reported annually, ensuring transparency, accountability, and continuous improvement. By formalizing these practices, TerSU ensures that its water management strategies are evidence-based, responsive to changing environmental conditions, and aligned with both national legislation and international sustainability standards.

MEASUREMENT AND MONITORING OF WATER CONSUMPTION

Termez State University recognizes that sustainable water management begins with accurate and continuous measurement of water use across all University operations. The University will maintain a comprehensive system for monitoring water consumption in lecture halls, laboratories, dormitories, research centers, administrative offices, sports facilities, and landscaped areas. This includes water drawn from municipal mains, boreholes, wells, and any supplementary sources such as rivers or lakes, in accordance with the Water Code of Uzbekistan and the relevant environmental regulations governing abstraction and use of natural water resources.

All University buildings and facilities are required to incorporate sub-metering systems, allowing the Estates and Facilities Division to obtain detailed consumption data on a regular basis. Water use data will be aggregated and analyzed to identify inefficiencies, detect leaks, and prioritize interventions. The University will also maintain records of water consumption trends over time, benchmarking against national and international standards, including sustainability rankings indicators, to ensure continuous performance improvement.

Annual reports on water consumption will be published as part of TerSU's Environmental Sustainability Reports. These reports will detail total water usage, per-capita consumption, and reductions achieved through efficiency measures and reuse initiatives. Such transparency ensures accountability and provides a foundation for informed decision-making, fostering a culture of water stewardship among all members of the University community.

Furthermore, all laboratories, workshops, and facilities handling chemicals or other potentially hazardous substances must maintain compliance with Uzbekistan's sanitary norms and regulations, ensuring that measurement practices are complemented by safe handling, storage, and disposal protocols. Periodic audits will be conducted to verify that water usage monitoring systems function correctly, and corrective measures will be implemented promptly where discrepancies are identified.

WASTEWATER MANAGEMENT AND TREATMENT

TERSU is committed to managing wastewater responsibly, protecting public health, and maintaining compliance with Uzbekistan's Environmental Protection Law, Water Code, and related regulations governing discharge and reuse of wastewater. All effluent generated within the University facilities—including laboratories, research areas, administrative offices, dormitories, and kitchens—must be treated or pre-treated to prevent contamination of natural water sources.

The University has established protocols for the separation of greywater and blackwater, ensuring that non-hazardous water streams can be safely collected for reuse in irrigation, cleaning, and other non-potable applications. Laboratory and workshop effluents that contain chemicals, solvents, or other hazardous substances must be pre-treated according to strict safety standards before entering the sewer system. These measures are aligned with international best practices and are designed to prevent environmental contamination and ensure compliance with public health standards.

Wastewater treatment facilities on campus operate in coordination with municipal treatment plants where appropriate, ensuring that discharge meets the standards prescribed by Uzbekistan's State Sanitary and Epidemiological Surveillance Authority. Routine testing and analysis of effluent quality are conducted to detect pollutants, monitor compliance, and guide corrective actions. All treatment and disposal operations are documented and reviewed periodically by the University's Environmental Sustainability Committee, ensuring accountability and continuous improvement.

The University actively explores technological innovations in wastewater treatment, including on-site filtration systems, constructed wetlands, and bio-treatment processes. These initiatives support the dual objectives of environmental protection and sustainable reuse, enabling TerSU to maximize the lifecycle value of its water resources while safeguarding local ecosystems and public health.

WATER REUSE AND SUSTAINABLE PRACTICES

Water reuse is a cornerstone of TerSU's commitment to sustainability. The University prioritizes the capture and reuse of rainwater, greywater, and treated wastewater wherever feasible, in accordance with Uzbekistan's Water Code and construction regulations. Rainwater harvesting systems are integrated into new buildings and retrofitted in selected existing structures to supply non-potable water for toilets, irrigation of green spaces, cleaning, and other operational needs. These initiatives reduce reliance on municipal water supply, enhance resilience to seasonal shortages, and contribute to overall water efficiency goals.

Water reuse practices are incorporated into the design and operation of academic laboratories, workshops, and dormitories. Systems are equipped with storage tanks, filtration, and controlled distribution networks to ensure that recycled water is safely and efficiently applied. The University also implements strict protocols for quality control, monitoring the chemical, biological, and physical properties of reused water to ensure compliance with public health standards and environmental regulations.

Landscape management practices are designed to minimize water consumption and optimize reuse. The University prioritizes drought-tolerant and native plant species, mulching, and soil moisture retention techniques to reduce irrigation needs. Where irrigation is necessary, recycled water is used preferentially, and irrigation schedules are aligned with seasonal rainfall patterns. Green roofs, permeable paving, and vegetative swales further support sustainable water capture and reuse while enhancing biodiversity and the resilience of campus ecosystems.

TerSU actively promotes awareness and engagement regarding water reuse among staff, students, and contractors. Educational campaigns, training programs, and signage encourage responsible water consumption and the proper use of water reuse systems. In addition, research initiatives within the University explore innovative water reuse technologies, contributing to the broader knowledge base on sustainable water management in Uzbekistan and Central Asia.

The University commits to reducing total water consumption by at least 15% by 2028 relative to 2022 levels, in line with TerSU Environmental Sustainability Strategy benchmarks. Monitoring, reporting, and continuous improvement of water reuse practices are embedded into all planning and operational processes, ensuring that water sustainability is integrated into the University's long-term strategic vision.

WATER POLLUTION PREVENTION

Termez State University recognizes that sustainable water management extends beyond usage and reuse to the proactive prevention of water pollution. All campus activities, including laboratory research, catering operations, landscaping, and maintenance, are subject to strict controls to prevent contaminants from entering water systems. In alignment with Uzbekistan's Environmental Protection Law, Water Code, and related sanitary regulations, the University maintains procedures to manage accidental discharges, chemical spills, and runoff from urban surfaces.

Laboratories and workshops handling hazardous materials are required to maintain up-to-date risk assessments, install appropriate containment measures, and employ spill-response equipment. All effluents, including chemical or biologically active substances, must undergo pre-treatment or neutralization before disposal. Routine audits are conducted to ensure compliance with environmental standards, and corrective actions are implemented immediately in case of non-conformities.

The University also integrates water pollution prevention into construction and renovation projects. Building designs include leak detection systems, environmentally safe drainage networks, and dual-catchment systems to separate greywater and stormwater. Landscaping and green infrastructure projects—such as bioswales, green roofs, and permeable pavements—further reduce the potential for pollutants to enter water systems, while supporting natural infiltration and biodiversity.

Through these measures, TerSU ensures that all aspects of campus life comply with national water protection standards, minimize the risk of environmental contamination, and demonstrate leadership in sustainable water stewardship.

COMMUNITY ENGAGEMENT AND EDUCATION

TerSU is committed to fostering a culture of water stewardship both on and off campus. Recognizing the educational role of universities in society, the University actively promotes awareness of sustainable water practices among students, staff, and the wider community. These efforts are aligned with Uzbekistan's commitments under international frameworks for sustainable water management and the United Nations Sustainable Development Goal 6 (Clean Water and Sanitation).

Educational initiatives include workshops, seminars, and awareness campaigns on water conservation, wastewater treatment, and responsible water use. TerSU's Environmental Sustainability Office coordinates with faculties to integrate sustainability topics into curricula, enabling students to develop both theoretical knowledge and practical skills in water management.

Beyond the University, TerSU collaborates with local authorities, water utilities, schools, and community organizations to promote conscious water use. These collaborations include public lectures, participatory community research, and citizen-science projects focused on water quality monitoring, pollution prevention, and flood resilience. Through these initiatives, students and faculty contribute directly to improving local water security, while communities gain practical knowledge and tools to manage water resources responsibly.

TerSU also leverages research partnerships and sustainability benchmarking to support regional water governance. By sharing knowledge, conducting joint studies, and providing policy recommendations, the University actively contributes to sustainable water management at the city, regional, and national levels.

GOVERNANCE, MONITORING, AND CONTINUOUS IMPROVEMENT

Effective governance and oversight are essential to ensure the success of TerSU's water reuse and sustainable water management initiatives. The University has established a Water Sustainability Committee responsible for developing policies, monitoring compliance, and ensuring alignment with national legal requirements and international best practices. This Committee includes representatives from the Environmental Sustainability Office, Estates and Facilities Division, faculty experts, and student representatives.

Key responsibilities of the Committee include:

- Reviewing water consumption data, efficiency targets, and progress on water reuse initiatives.
- Conducting periodic audits of water systems, treatment facilities, and landscaping practices to ensure compliance with legal and environmental standards.
- Evaluating the performance of rainwater harvesting, wastewater treatment, and irrigation systems, recommending improvements where necessary.
- Developing and implementing training programs for staff, students, and contractors on water stewardship and sustainability practices.
- Publishing annual reports on water use, reuse, and conservation outcomes, maintaining transparency and accountability in line with sustainability rankings indicators.

TerSU adopts a continuous improvement approach, integrating feedback from audits, research findings, and community engagement into operational practices. New technologies, design standards, and management techniques are reviewed for feasibility and adopted to enhance water efficiency. This includes exploring innovative filtration, recycling, and monitoring systems to optimize water reuse and minimize environmental impact.

The University also maintains a transparent reporting framework, aligning internal performance metrics with international benchmarks, legal standards, and public

sustainability commitments. This ensures that water management practices not only meet current regulatory requirements but also set a precedent for leadership in sustainable water management in Uzbekistan and Central Asia.

RESEARCH AND INNOVATION IN WATER MANAGEMENT

Termez State University recognizes the central role of research and innovation in advancing sustainable water practices. The University encourages interdisciplinary collaboration between faculties, laboratories, and research centers to explore solutions for water efficiency, reuse, and pollution prevention. By integrating applied research with campus operations, TerSU ensures that innovations in water management are directly translated into measurable environmental benefits.

Research initiatives include the development of advanced rainwater harvesting systems, optimization of wastewater treatment processes, and the use of smart monitoring technologies to track consumption and detect leaks in real time. The University actively explores sustainable urban drainage solutions, green infrastructure, and eco-engineering practices that minimize runoff, enhance biodiversity, and improve water quality on campus.

TerSU also promotes the study of water governance, climate-resilient practices, and resource-efficient water use, providing a knowledge base to inform both local policy and international water management standards. Students are actively involved in research projects, gaining hands-on experience with water management technologies and sustainability methodologies. This practical engagement ensures that graduates are not only knowledgeable but also capable of implementing sustainable water practices in their professional careers.

By fostering partnerships with local municipalities, water utilities, and environmental NGOs, TerSU contributes to broader regional water security, demonstrating the value of research-driven solutions in supporting Uzbekistan's national water policies and international commitments.

FUTURE STRATEGIES AND CONTINUOUS DEVELOPMENT

TerSU is committed to continuous improvement in water management, aligning its strategies with both national regulations and global sustainability frameworks. The University has set clear, measurable targets for reducing water consumption and increasing reuse, consistent with Uzbekistan's Environmental Protection Law, the Water Code, and UN Sustainable Development Goal 6.

Future strategies include expanding rainwater harvesting infrastructure across campus buildings, increasing the reuse of treated wastewater for irrigation and cleaning, and enhancing automated monitoring of water systems to optimize consumption. The University also plans to integrate advanced water-saving technologies, including low-flow fixtures, leak detection sensors, and smart irrigation systems in all new construction and refurbishment projects.

TerSU will continue to embed water stewardship into the curriculum, staff training, and community engagement programs, ensuring that awareness and responsibility for water resources are deeply ingrained in the University culture. The institution will regularly review and update operational procedures, research priorities, and policy frameworks to adapt to emerging challenges such as climate change, population growth, and water scarcity in Uzbekistan.

Monitoring, evaluation, and reporting will remain central to these future strategies. Annual reports will document progress on water conservation targets, highlight research outputs, and identify opportunities for further efficiency gains. Integration of Sustainability rankings benchmarking ensures that TerSU's performance is recognized internationally, providing a transparent and accountable system for measuring sustainability impact.

Through these initiatives, the University not only fulfills its legal obligations but also positions itself as a regional leader in sustainable water management, contributing to environmental protection, social well-being, and educational excellence.

CONCLUSION

Water is an essential and finite resource, and Termez State University is committed to ensuring its responsible use through integrated policies, sustainable practices, and community engagement. By combining rigorous operational standards, research-driven innovation, and educational outreach, TerSU promotes water stewardship across its campus and in the wider community.

The University's Water Reuse and Sustainable Water Management Policy aligns fully with national legislation, international frameworks, and global sustainability goals. It provides a robust governance structure, continuous monitoring, and clear accountability mechanisms, ensuring that water resources are conserved, reused effectively, and protected from contamination.

Through these comprehensive measures, TerSU demonstrates leadership in sustainable water management, contributing to a healthier, more resilient environment and empowering staff, students, and the broader community to participate actively in the stewardship of one of our planet's most vital resources.

ENTRY INTO FORCE AND REVIEW

The policy is effective from 1 January 2025.

It shall be reviewed every three years, or within six months following any relevant legislative change.

RESPONSIBLE UNIT AND CONTACT

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