



UI GreenMetric Questionnaire

University : Baku State University
Country : Azerbaijan
Web Address : <http://bsu.edu.az/en>
SDG focused Web Address: <https://sdg.bsu.edu.az/>

[4] Water (WR)

[4.4] Water Efficient Appliances Usage (e.g. hand washing taps, toilet flush, etc.) (WR.4)

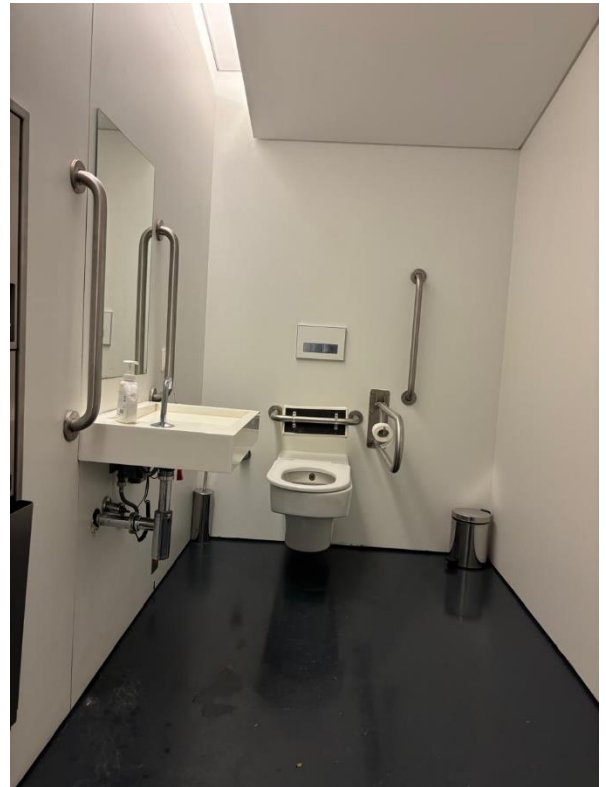


Water Efficient Appliances Usage





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Description:

Baku State University (BSU) has adopted a comprehensive water conservation and recycling program, underpinned by modern filtration systems and innovative reuse strategies. These initiatives not only support the university's operational needs but also safeguard local ecosystems, serving as a model for sustainable water management in higher education institutions. By integrating advanced technology with ecological responsibility, BSU ensures that more than 50% of total water consumption on campus is treated and reused.

Key Practices in Water Recycling and Conservation

- **Reuse of Swimming Pool Water:** After competitions and daily training sessions, swimming pool water undergoes a multi-stage filtration process. During the summer months, this treated water is redirected for irrigating campus greenery, while in winter, it is reused for toilet flushing in campus buildings. This dual-purpose reuse system ensures year-round conservation, reduces dependency on external freshwater sources, and prevents unnecessary discharge.
- **Closed Circulation in Fountains:** All fountains across the campus operate through a closed-loop circulation system. This minimizes additional water intake, maintains the fountains' aesthetic and recreational value, and prevents unnecessary losses due to evaporation and overflow.
- **Water Filtration in the Eco-Space:** In the Eco-Space, which functions as both a research and educational hub, water used for fish farming and aquaponics is continuously filtered and recycled within the system. This not only sustains aquatic life but also provides a practical demonstration of ecological balance, biodiversity preservation, and sustainable food systems.



- **Smart Irrigation for Plants:** Advanced soil moisture sensors are installed at the root zones of plants across green areas of the campus. These sensors monitor soil humidity in real time and activate irrigation only when necessary, preventing overwatering. As a result, irrigation efficiency is maximized, and water is conserved for essential uses.
- **Treatment of Domestic and Technical Wastewater:** Wastewater generated from laboratories, dormitories, and administrative facilities is processed using advanced treatment equipment. Once treated to ecological standards, this water is reused for irrigation, cleaning, and technical operations, further enhancing resource efficiency.

Baku State University implements a wide range of modern water-efficient technologies and infrastructure to ensure the sustainable use of water resources across its campus. The university utilizes dual-flush toilet systems, sensor-based faucets, low-flow taps, and other water-saving sanitary equipment. These installations significantly reduce daily water consumption and contribute to more efficient resource management.

Water management at the campus is not limited to technical installations but is also supported by institutional policies. The university’s “Clean Water Policy” provides a comprehensive regulatory framework for sustainable water use and defines strategic approaches for the conservation and efficient management of water resources.

In addition, the university actively implements smart irrigation systems, the environmentally focused “Eco-Space” initiative, and scientific research related to water resource monitoring and environmental sustainability. These initiatives help minimize water losses and enhance the resilience of campus ecosystems.

Projects under SDG 6 (Clean Water and Sanitation), along with international collaborations, significantly contribute to the improvement of water management systems at the university. Statistical data indicates that a considerable proportion of water-efficient appliances is already in use, such as toilets and washbasins.

Some examples of water conservation measures include, cisternisers (automatic control of urinal flushing), waterless urinals, low flush WC’s and low flo taps and automatic taps.

Appliance	Total Number	Water-Efficient Appliances	Percentage
Toilets	250	200	80%
Wastafels / Sinks	150	135	90%
Showers	50	45	90%
Drinking Fountains / Water Dispensers	30	28	93%



Laboratory Sinks	40	32	80%
Kitchen / Cafeteria Faucets	20	18	90%
Urinals	60	48	80%
Garden / Irrigation Systems	20	18	90%
Total	620	524	84.5%

<i>Water Recycling Practice</i>	<i>System Description</i>	<i>Application / Reuse Purpose</i>	<i>Estimated Annual Water Recycled (Liters)</i>
Swimming Pool Water Reuse	Multi-stage filtration after competitions and training	Summer: irrigation of greenery; Winter: toilet flushing	420,000
Fountain Closed Circulation	Closed-loop water circulation system in all fountains	Continuous reuse without additional water intake	180,000
Eco-Space Water Filtration	Continuous filtration and recirculation in aquaponics/fish farming systems	Supports aquatic life, biodiversity and food systems	260,000
Domestic Wastewater Treatment	Advanced treatment systems for wastewater from dormitories and campus facilities	Irrigation, technical operations, campus cleaning	520,000
Technical Wastewater Recycling	Treatment of laboratory and operational wastewater	Reuse for technical processes and maintenance	280,000



Additional evidence link (i.e., for videos, more images, or other files that are not included in this file):

1. Baku State University has an official “Clean Water Policy” that ensures efficient use of water resources. This document defines principles for water conservation and sustainable management across the campus.
For more information please click link:
<https://sdg.bsu.edu.az/clean-water-policy>
2. This document provides detailed information on water management and conservation measures at the university. It outlines technical and administrative actions for efficient water usage.
For more information please click link:
<https://sdg.bsu.edu.az/uploads/files/Clean%20Water%20Policy.pdf>
3. The seminar focused on the development and application of smart irrigation technologies at the university. It introduced innovative approaches for optimizing water usage.
For more information please click link:
<https://sdg.bsu.edu.az/news/scientific-seminar-at-bsu-development-of-smart-irrigation-technology>
4. The “Eco-Space” project aims to enhance environmental sustainability within the campus. It supports efficient use of water and other natural resources.
For more information please click link:
<https://sdg.bsu.edu.az/news/new-unique-project--eco-space-at-the-university>
5. The seminar focused on ecological modeling of the Hakari River and water resource studies. This research contributes to the protection of aquatic ecosystems.
For more information please click link:
<https://sdg.bsu.edu.az/news/scientific-seminar-on-the-modeling-of-the-hakari-river-held-at-the-faculty-of-geography>
6. This study focuses on the natural vegetation of the Caspian coast. It provides important data for the conservation and sustainability of water ecosystems.
For more information please click link:
<https://sdg.bsu.edu.az/news/study-of-the-natural-vegetation-of-the-caspian-coast-underway-at-bsu>
7. Baku State University has joined the International Sustainable Campus Network. This membership strengthens global cooperation in water and environmental management.
For more information please click link:
<https://sdg.bsu.edu.az/news/bsu-joins-the-international-sustainable-campus-network>
8. The university has official policies covering environmental and water management practices. These policies support sustainable development on campus.
For more information please click link:
<https://sdg.bsu.edu.az/university-policies>
9. The conference discussed the application of modern methods to improve water security. Scientific presentations focused on efficient water resource utilization.
For more information please click link:



<https://sdg.bsu.edu.az/news/an-international-scientific-conference-on-the-topic-application-of-modern-equipment-and-methods-in-improving-food-and-water-security-is-being-held-at-bsu>

10. The IRRIGO project aims to develop sustainable agricultural and irrigation systems on campus. It introduces innovative approaches for smart water management.

For more information please click link:

<https://sdg.bsu.edu.az/news/the-project-irrigo--sustainable-agricultural-ecosystem-which-will-be-established-on-the-bbsu-campus,-will-be-featured-in-the-finals-of-the-teknofest-2025-shc>

11. Student research focuses on water safety and reducing environmental risks. These studies demonstrate the application of modern technologies in water management.

For more information please click link:

<https://sdg.bsu.edu.az/news-bsu-students-conduct-scientific-research-on-nanotechnologies-and-environmental-safety>

12. The SDG reports demonstrate the university's commitment to sustainability, environmental management, and efficient use of natural resources across the campus. Institutional progress toward sustainable campus infrastructure and water-related goals is clearly presented.

For more information please click link:

<https://sdg.bsu.edu.az/sdg-reports>

13. The Climate Action Plan outlines strategies for sustainable campus development, climate resilience, and environmentally responsible resource management. Measures supporting water conservation and ecological infrastructure are emphasized.

For more information please click link:

<https://sdg.bsu.edu.az/climate-action-plan-action>

14. The governance framework reflects the university's commitment to sustainability-oriented management and environmental planning. Policies supporting efficient infrastructure and resource management are integrated into institutional governance.

For more information please click link:

<https://sdg.bsu.edu.az/governance>

15. The university sustainability platform presents initiatives, policies, and projects related to environmental protection and sustainable campus development. Institutional efforts toward efficient resource use and ecological responsibility are highlighted.

For more information please click link:

<https://sdg.bsu.edu.az/>

16. Research activities related to SDG 6 demonstrate the university's contribution to sustainable water management and clean water solutions. Scientific studies addressing water conservation and environmental sustainability are actively supported.

For more information please click link:

<https://sdg.bsu.edu.az/research-on-sdg-6>

17. The research platform highlights scientific studies and innovation activities focused on sustainability and environmental challenges. Contributions to sustainable resource management and ecological development are demonstrated through academic research.

For more information please click link:

<https://sdg.bsu.edu.az/research>



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18. The SDG 6 report evaluates the university's initiatives and achievements related to clean water and sanitation. Progress in sustainable water management and efficient water use practices is clearly illustrated.

For more information please click link:

<https://sdg.bsu.edu.az/report-on-sdg-6-clean-water-and-sanitation>

19. The news platform presents sustainability-related projects, environmental initiatives, and campus development activities implemented by the university. Efforts supporting ecological awareness and sustainable resource management are regularly highlighted.

For more information please click link:

<https://sdg.bsu.edu.az/allnews>