

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/>

[3] Waste (WS)

[3.12] Inorganic Waste Treatment (WS.4)



Inorganic Waste Treatment



Inorganic Waste Treatment



Description:

Type of waste	Produced (Last Year)	Produced (This Year)	Reduced (tons)	Treated – Reused (tons)	Treated – Down-cycled (tons)	Treated – Up-cycled (tons)	Total Treated (tons)
Inorganic non-toxic	130	91	39	40	28	19	87 (96%)
- Paper	65	46	19	21	14	9	44
- Soft plastic	18	13	5	6	4	2	12
- Hard plastic	18	13	5	6	3	3	12
- Other non-toxic waste	29	19	10	7	7	5	19
Total	130	91	39	40	28	19	87

During the reporting year, Baku State University significantly improved the management of inorganic non-toxic waste by reducing the total amount generated from 130 tons in the previous year to 91 tons, achieving a 30% reduction (39 tons). This reduction was accomplished through the implementation of paperless administrative processes, sustainable procurement practices, waste prevention measures, increased use of reusable materials, and awareness campaigns promoting responsible consumption across the campus.

Of the 91 tons of inorganic non-toxic waste generated during the year, 87 tons (96%) were successfully treated through environmentally responsible waste management practices, demonstrating an extensive level of waste recovery. Only 4 tons (4%) remained untreated. The treated waste consisted of 40 tons reused, 28 tons down-cycled, and 19 tons up-cycled, ensuring that the majority of materials were returned to productive use rather than disposed of in landfill.

The principal waste streams included paper (46 tons), soft plastics (13 tons), hard plastics (13 tons), and other recyclable non-toxic materials (19 tons). Paper waste was primarily recovered through reuse and recycling programs, while plastic materials were processed through recycling and resource recovery initiatives. Other recyclable materials were managed using a combination of reuse, down-cycling, and up-cycling methods in cooperation with licensed waste management partners.

The university applies a comprehensive waste management system based on the 3R (Reduce, Reuse, Recycle) principle and circular economy practices. Source segregation, clearly designated recycling stations, continuous monitoring of waste streams, and collaboration with certified recycling companies ensure the efficient recovery of valuable materials while minimizing environmental impacts.

By achieving a 30% reduction in waste generation and treating 96% of the remaining inorganic non-toxic waste, Baku State University demonstrates its strong commitment to sustainable resource management, environmental protection, and continuous improvement. These initiatives support the university's Green Campus Strategy and contribute directly to SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 11 (Sustainable Cities and Communities).

Baku State University systematically monitors, records, and evaluates the total volume of inorganic waste generated across campus on an annual basis as part of its integrated waste management and environmental sustainability framework. The university maintains a structured waste tracking and reporting mechanism to ensure accurate measurement, documentation, and analysis of inorganic waste streams arising from academic buildings, administrative offices, laboratories, student facilities, and other campus operations.



Inorganic waste data is categorized by waste type-including paper, cardboard, soft plastic, hard plastic, glass, metal, packaging materials, and other non-toxic inorganic materials-and quantified in metric tons to provide a comprehensive overview of campus waste generation patterns. This classification system enables the university to identify major waste sources, assess waste composition trends, and improve data-driven decision-making in waste management planning.

The collected data supports the implementation and continuous improvement of Baku State University's waste reduction, reuse, recycling, and treatment strategies by allowing the institution to monitor progress against sustainability targets and evaluate the effectiveness of existing waste management initiatives. The annual inorganic waste inventory also informs campus-wide environmental awareness campaigns, procurement decisions, recycling infrastructure planning, and operational improvements aimed at minimizing landfill disposal and promoting circular economy principles.

Through regular monitoring of inorganic waste volumes, Baku State University strengthens institutional accountability, enhances environmental reporting capacity, and demonstrates its commitment to transparent sustainability performance assessment in alignment with international environmental management standards and the United Nations Sustainable Development Goals.

Baku State University conducts systematic annual monitoring of the total volume of inorganic waste treated across campus as part of its institutional environmental management and sustainability reporting framework. Inorganic waste generated from academic buildings, administrative offices, student facilities, and campus service areas is categorized into non-toxic waste streams such as paper, soft plastics, hard plastics, and other recyclable inorganic materials.

The university records the quantity of inorganic waste treated through various sustainable waste management practices, including direct reuse, down-cycling into lower-grade materials, and up-cycling into value-added products. These treatment methods are implemented in cooperation with internal operational units and authorized waste management and recycling partners to ensure environmentally responsible processing of waste materials.

Tracking the annual treatment volume of inorganic waste enables the university to assess the efficiency of its recycling and recovery systems, identify opportunities for waste reduction, and improve campus-wide resource management performance.

Baku State University (BSU) implements a comprehensive and multi-stage inorganic waste management system designed to ensure environmentally responsible handling of non-organic waste generated across campus. The university's approach is based on source segregation, awareness and education, scientific engagement, and collaboration with external waste management stakeholders, reflecting BSU's commitment to sustainable campus operations and circular economy principles.

The foundation of BSU's inorganic waste treatment system is waste segregation at the source. Special waste collection containers have been installed throughout campus for the separate collection of inorganic waste streams, particularly paper and plastic materials. These designated bins enable students, academic staff, and administrative personnel to sort recyclable waste directly at the point of disposal, preventing contamination with general household waste and improving recycling efficiency.

To strengthen environmental awareness and practical understanding of waste management, BSU regularly organizes educational programs, awareness campaigns, and technical excursions for students and staff. In particular, students of the Faculty of Ecology and Soil Science participate in study visits to facilities such as the Balakhani Industrial Park operated by Clean City JSC, where they gain firsthand exposure to industrial-scale waste segregation, recycling technologies, and waste-to-energy recovery systems. These initiatives enhance sustainability literacy and encourage active participation in responsible waste management practices.

In addition to operational waste treatment measures, BSU integrates scientific research into its inorganic waste management strategy. The Faculty of Chemistry conducts research and academic seminars on innovative waste processing technologies, including the conversion of polymer-based waste into new functional materials. This research-oriented approach supports the development of advanced recycling methods and promotes the transformation of waste into value-added products, extending the university's contribution beyond waste collection toward innovation in sustainable materials science.



Collected inorganic waste is monitored, documented, and transferred to relevant recycling and treatment channels for reuse, recycling, down-cycling, or up-cycling depending on material type and recovery potential. Through continuous monitoring and annual reporting of treated inorganic waste volumes, BSU evaluates the effectiveness of its waste management practices and identifies opportunities for further improvement.

Overall, the inorganic waste treatment system at Baku State University represents an integrated and multifaceted model of sustainable waste management, combining infrastructure, education, research, and stakeholder collaboration.

Area	Implementation at Baku State University	Outcomes / Impact
Inorganic Waste Generation	During the reporting year, BSU reduced inorganic non-toxic waste generation from 130 tons to 91 tons , achieving a 30% reduction (39 tons) through paperless administration, sustainable procurement, waste prevention measures, increased use of reusable materials, and campus-wide awareness campaigns.	Reduced resource consumption, lower waste generation, and improved environmental performance.
Inorganic Waste Treatment Performance	Of the 91 tons of inorganic non-toxic waste generated, 87 tons (96%) were treated through environmentally responsible waste management practices. The treated waste included 40 tons reused , 28 tons down-cycled , and 19 tons up-cycled . Only 4 tons (4%) remained untreated.	Achieved an extensive treatment rate (96%) , significantly reducing landfill disposal while maximizing resource recovery.
Major Waste Streams	The principal inorganic waste streams consisted of paper (46 tons) , soft plastics (13 tons) , hard plastics (13 tons) , and other recyclable non-toxic materials (19 tons) .	Enables targeted waste reduction and recycling strategies based on waste composition.
3R and Circular Economy Approach	BSU applies the Reduce, Reuse, Recycle (3R) principle together with circular economy practices. Paper and plastics are recovered through reuse, recycling, down-cycling, and up-cycling depending on their condition and recovery potential.	Maximizes material recovery, conserves natural resources, and minimizes environmental impacts.
Annual Waste Monitoring	The university systematically monitors, records, and evaluates the total volume of inorganic waste generated across academic buildings, laboratories, administrative offices, student facilities, and campus services through an integrated environmental management system.	Ensures accurate waste inventories, performance evaluation, evidence-based decision-making, and transparent sustainability reporting.
Waste Classification	Inorganic waste is categorized into paper, cardboard, soft plastics, hard plastics, glass, metals, packaging materials, and other non-toxic waste streams, with annual quantities recorded in metric tons.	Improves identification of major waste sources and supports targeted waste reduction planning.
Waste Treatment Monitoring	BSU annually records the quantity of inorganic waste treated through reuse ,	Measures recycling efficiency, treatment performance, and progress



	down-cycling, and up-cycling in cooperation with licensed recycling and waste management partners.	toward institutional sustainability targets.
Source Segregation Infrastructure	Dedicated recycling containers for paper, plastics, and other recyclable materials are installed throughout the campus, enabling students and staff to separate waste at the point of generation.	Reduces contamination, improves recycling quality, and increases recovery rates.
Awareness and Education	The university organizes regular environmental campaigns, seminars, workshops, and technical visits to recycling facilities such as Balakhani Industrial Park to strengthen environmental awareness and practical knowledge of sustainable waste management.	Promotes responsible consumption, increases participation in recycling programs, and strengthens sustainability culture across campus.
Research and Innovation	Researchers and academics, particularly within the Faculty of Chemistry, conduct research on polymer recycling, advanced waste processing technologies, and the conversion of inorganic waste into value-added materials.	Supports innovation in sustainable materials science and promotes the development of advanced recycling technologies.
Operational Waste Recovery	Collected inorganic waste is monitored, documented, and transferred to authorized recycling and treatment facilities where it is reused, recycled, down-cycled, or up-cycled according to material characteristics.	Ensures environmentally sound waste treatment and minimizes landfill disposal.
Environmental and Institutional Benefits	BSU's integrated inorganic waste management model combines infrastructure, monitoring, education, research, and stakeholder collaboration to improve resource efficiency and reduce environmental impacts.	Strengthens the university's Green Campus Strategy , supports SDG 11 (Sustainable Cities and Communities) , SDG 12 (Responsible Consumption and Production) , and SDG 13 (Climate Action) , while demonstrating institutional commitment to continuous environmental improvement.

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

1. Baku State University launched the "Waste to Art" campaign to promote recycling awareness and creative reuse of materials within the framework of the Year of Urbanism and Architecture. The initiative encouraged students to transform waste into artistic products, fostering environmental responsibility and innovative approaches to sustainable waste management.
For more information click: <https://sdg.bsu.edu.az/news/new-campaign-launched-to-turn-waste-into-art-during-the-year-of-urbanism-and-architecture>
2. Baku State University collaborates with non-governmental organizations to advance the United Nations Sustainable Development Goals through joint research, education, and community engagement initiatives. These partnerships strengthen the university's



contribution to climate action, sustainability awareness, and cross-sectoral cooperation in addressing environmental and social challenges.

For more information click: <https://sdg.bsu.edu.az/news/bsu-collaborates-with-ngos-for-sustainable-development-goals>

3. Baku State University volunteers participated in the “Protect the Caspian 2025” International Coastal Cleanup, contributing to coastal waste removal and marine ecosystem protection. The initiative promoted environmental responsibility, student civic engagement, and awareness of sustainable waste management and biodiversity conservation.

For more information click: <https://sdg.bsu.edu.az/news/bsu-volunteers-participate-in-protect-the-caspian-2025-international-coastal-cleanup>

4. Baku State University organized the EcoDay-2025 competition in celebration of World Environment Day to promote ecological awareness, recycling, and sustainable practices among students. The event featured innovative student projects made from recyclable materials and strengthened environmental responsibility through practical engagement in sustainability initiatives.

For more information click: <https://sdg.bsu.edu.az/news/ecoday-2025-competition-at-bsu-dedicated-to-world-environment-day>

5. Baku State University provides mandatory environmental sustainability training for students and staff to strengthen institutional awareness and capacity in sustainable practices. The program covers climate change, resource efficiency, waste management, and environmental responsibility, supporting the integration of sustainability principles into campus operations and academic life.

For more information click: <https://sdg.bsu.edu.az/news/dedicated-mandatory-training-on-environmental-sustainability-for-staff-and-students>

6. Baku State University demonstrates a strong institutional commitment to the United Nations Sustainable Development Goals by integrating sustainability into education, research, governance, and community engagement across the university. Through strategic partnerships, policy development, interdisciplinary initiatives, and international collaboration, BSU actively contributes to advancing sustainable development at local and global levels.

For more information click: <https://sdg.bsu.edu.az/bsu%60s-commitment-to-sdgs>

7. Baku State University has developed a Sustainability and Biodiversity Policy aimed at conserving ecosystems, protecting biological diversity, and promoting the sustainable use of natural resources across its academic and operational activities. The policy establishes a framework for environmental stewardship, biodiversity conservation initiatives, and integration of sustainability principles into education, research, and campus management in alignment with global sustainability standards.

For more information: <https://sdg.bsu.edu.az/sustainability-and-biodiversity-policy>

8. Baku State University’s Clean Water Policy establishes a comprehensive framework for sustainable water resource management, wastewater treatment, pollution prevention, and water conservation across campus operations. The policy reflects the university’s commitment



to responsible water stewardship, ensuring access to clean drinking water and promoting efficient water use in alignment with environmental sustainability objectives.

For more information: <https://sdg.bsu.edu.az/clean-water-policy>

9. Baku State University conducts interdisciplinary research in support of SDG 14: Life Below Water, focusing on marine pollution, biodiversity conservation, aquatic ecosystem protection, and sustainable management of the Caspian Sea. Through advanced scientific methods and international collaboration, BSU contributes to the protection of aquatic resources and the development of evidence-based solutions for marine environmental challenges.

For more information: <https://sdg.bsu.edu.az/research-on-sdg-14>

10. Baku State University hosted the “Waste-for-Gifts” Festival to promote recycling awareness and responsible waste segregation through student and community participation. The initiative encouraged the collection of recyclable materials in exchange for symbolic rewards, contributing to environmental education and sustainable waste management practices on campus.

For more information: <https://sdg.bsu.edu.az/news/waste-for-gifts-festival-held-at-bsu>

11. Baku State University conducts advanced research on the purification of oil-contaminated water using bio-nanoabsorbents, developing innovative and environmentally friendly treatment methods for aquatic pollution remediation. This research supports sustainable wastewater management and contributes to the protection of water ecosystems through the application of low-waste nanotechnology-based purification solutions.

For more information: <https://sdg.bsu.edu.az/news/bsu-conducts-research-on-purification-of-oil-contaminated-water-using-bio-nanoabsorbents>

12. Baku State University’s Report on SDG 6: Clean Water and Sanitation provides a comprehensive overview of institutional measures supporting sustainable water management, wastewater treatment, and water conservation across campus operations. The report highlights BSU’s progress in water monitoring, reuse practices, awareness initiatives, and research activities aligned with global clean water and sanitation objectives.

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

13. Baku State University participated in the UN Local Conference of Youth on Climate Change, where the National Youth Climate Statement of Azerbaijan was adopted to contribute to the Global Youth Statement for COP30. The initiative highlights BSU’s active role in empowering youth engagement in climate governance and supporting inclusive dialogue on sustainable climate action.

For more information: <https://sdg.bsu.edu.az/news/national-youth-climate-statement-of-azerbaijan-adopted-at-the-un-local-conference-of-youth-on-climate-change>

14. Baku State University’s SDG Club serves as a student-led platform dedicated to promoting awareness, engagement, and action related to the United Nations Sustainable Development Goals across the university community. The club organizes educational campaigns, workshops, volunteer initiatives, and sustainability-focused projects to strengthen student participation in sustainable development activities.

For more information: <https://sdg.bsu.edu.az/sdgclub>



15. The training on modern approaches to solid waste management held at Baku State University focused on raising awareness about effective waste segregation, recycling practices, and sustainable environmental management among students and staff. During the event, the university also joined the “Card to Art” eco-social initiative, introducing dedicated collection boxes on campus for recycling plastic cards.
For more information: <https://sdg.bsu.edu.az/news/training-on-modern-approaches-to-solid-waste-management-held-at-bsu>
16. The Ethical Sourcing, Waste Management, and Sustainable Use Policy at Baku State University establishes a comprehensive framework for responsible procurement, ethical sourcing, and sustainable resource use across campus operations. It outlines the university’s commitment to waste reduction, environmentally responsible purchasing, and continuous monitoring of sustainability performance in line with international standards and the UN SDGs.
For more information: <https://sdg.bsu.edu.az/ethical-sourcing,-waste-management>
17. The “Give New Life to Old Batteries!” initiative launched by BSU Volunteers promotes the separate collection and proper disposal of used batteries to reduce their harmful impact on the environment and human health. The project also raises awareness about the environmental risks of hazardous battery components such as lead, lithium, mercury, and zinc, encouraging responsible recycling practices within the university community.
For more information: <https://sdg.bsu.edu.az/news/bsu-volunteers-green-initiative-give-new-life-to-old-batteries!>
18. A scientific seminar at Baku State University highlighted the development of smart irrigation technology aimed at improving water efficiency and agricultural productivity through innovative digital solutions. The presented “SmAgTech” system enables real-time monitoring of soil and environmental conditions, automated irrigation/fertilization, and remote management via mobile application.
For more information: <https://sdg.bsu.edu.az/news/scientific-seminar-at-bsu-development-of-smart-irrigation-technology>
19. The interview highlights the scientific journey of BSU researcher Lala Gahramanli, who continued her nanotechnology and materials science research at Italy’s National Institute of Nuclear Physics after beginning her work at Baku State University. It showcases BSU’s growing international research collaborations and the university’s contributions to innovation in areas such as nanotechnology, wastewater purification, and green technologies.
For more information: <https://sdg.bsu.edu.az/news/young-scientist-i-continued-the-research-i-started-at-bsu-at-italys-national-institute-of-nuclear-physics--interview>
20. Baku State University’s participation in the 18th Azerbaijan International Agriculture Exhibition, Caspian Agro, highlights its commitment to advancing sustainable agricultural innovation through the presentation of its “Irrigo – Sustainable Agricultural Ecosystem” project. The showcased system integrates wastewater treatment and artificial intelligence to optimize irrigation and fertilizer use, supporting efficient water management and sustainable farming practices.



For more information: <https://sdg.bsu.edu.az/news/bsu-is-represented-at-caspian-agro--the-18th-azerbaijan-international-agriculture-exhibition>

21. Baku State University participated in the “Sustainability Exhibition: Art and Innovation for the Planet” by showcasing its innovative “Irrigo” and “Hydroponics” projects, highlighting the university’s commitment to sustainable agriculture and climate solutions. The “Irrigo” project was recognized among the top six projects at the exhibition for its contribution to water conservation, wastewater reuse, and environmentally sustainable agricultural practices.

For more information: <https://sdg.bsu.edu.az/news/bsu-participates-in-sustainability-exhibition-art-and-innovation-for-the-planet>

22. The Sustainability Literacy Assessment Framework for staff and students at Baku State University is designed to evaluate the level of knowledge, awareness, and engagement with sustainability concepts and the UN Sustainable Development Goals. It also helps the university identify gaps in sustainability education and improve teaching, research, and campus initiatives based on assessment results.

For more information: <https://sdg.bsu.edu.az/news/sustainability-literacy-assessment-framework--staff-and-students>



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