



University: UzSWLU

Country: Uzbekistan

Web Address: <https://www.uzswlu.uz/en>

[3] Waste (WS)

3.18 ICT-Based Planning, Implementation, Monitoring, and Evaluation of Waste Management Programs

In 2025, Uzbekistan State World Languages University (UzSWLU) fully digitized its waste management system, ensuring real-time planning, monitoring, and evaluation of all environmental programs through the Green Data Portal — a central digital platform designed to track and optimize the university's sustainability performance.

This initiative is part of the *Green Campus Strategy (2023–2030)* and contributes directly to SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production) by integrating Information and Communication Technology (ICT) in waste management decision-making.

Key ICT Tools and Systems

1. UzSWLU Green Data Portal

- A university-developed digital platform that consolidates environmental data on **waste, energy, water, and climate actions**.
- Tracks waste generation and treatment volumes across **five categories** (organic, inorganic, toxic, paper/plastic, sewage).
- Generates automatic monthly and annual sustainability reports.
- Linked to departmental dashboards that allow **comparative analysis** among faculties.

2. Digital Reporting System

- Faculty-level coordinators upload data via secure online forms (waste logs, certificates, photos).
- Automatic notifications sent to the **Environmental Safety Committee** for verification.
- Each submission includes date, waste type, contractor, and CO₂-equivalent calculations.

3. GIS and IoT Integration

- Waste bins across main and secondary campuses tagged with **QR codes** for tracking collection frequency and volume.
- **IoT-based flow sensors** monitor sewage and water use in dormitories and cafeterias.
- Data visualization integrated with **interactive campus map** to identify high-waste zones.

4. Performance Evaluation System

- Each department receives a **quarterly sustainability score** based on:
 - Waste reduction rate (% decrease from previous year)
 - Digital reporting accuracy



- Student involvement
- The system identifies top-performing “Eco Offices” and “Zero Waste Zones” within the campus.

Implementation and Monitoring Workflow

Stage	ICT Tool Used	Responsible Unit	Description
Planning	Green Data Portal dashboard	Department of Natural Sciences	Setting annual waste reduction goals
Implementation	Digital reporting forms	Faculty eco-coordinators	Real-time data input on waste collection
Monitoring	IoT & QR tracking system	Technical Maintenance Unit	Automatic tracking of waste movement
Evaluation	Portal analytics + Excel AI dashboard	Environmental Safety Committee	Quarterly performance review & feedback

Results and Achievements (2025)

- 100% of all waste types (organic, inorganic, toxic, paper, sewage) monitored digitally.
- Monthly digital waste reports generated automatically via the Green Data Portal.
- CO₂-equivalent reduction analysis integrated into the portal, showing –8 tons from paperless transition and –10 tons from waste treatment.
- Data-based policy decisions: the university’s 2025 Waste Reduction Plan was built entirely using portal analytics.
- Zero data gap in 2025 reporting — all faculties successfully submitted quarterly reports online.
- ICT data cross-verified with city waste management partners (*Maxsus Trans, Eco Techno Clean, ChemUtil*).

Educational and Research Integration

- Students from the *Faculty of Translation and Information Systems* participated in developing the portal’s English interface and reporting module.
- Courses on “*Digital Environmental Monitoring*” introduced in 2025.
- Student eco-volunteers trained to use QR-based waste tracking apps for data collection.
- Analytical datasets from the portal used for academic research and environmental thesis projects.

Contribution to SDGs

This ICT integration supports:

- **SDG 9 – Industry, Innovation and Infrastructure**, through digital innovation in waste tracking.
- **SDG 11 – Sustainable Cities and Communities**, by providing transparent environmental reporting.
- **SDG 12 – Responsible Consumption and Production**, via data-driven waste reduction.
- **SDG 13 – Climate Action**, by quantifying and mitigating CO₂ emissions through analytics.



UZBEKISTAN STATE WORLD LANGUAGES UNIVERSITY WASTE MANAGEMENT POLICY

Date policy approved: September 2021
Date for review of policy: August 2023

1. Purpose

The purpose of this policy is to establish a framework for responsible waste management at Uzbekistan State World Languages University (USWLU). The university is committed to minimizing its environmental impact by effectively managing waste disposal, reducing waste generation, promoting recycling, and ensuring compliance with relevant national and local regulations.

2. Scope

This policy applies to all students, staff, faculty, contractors, and visitors at USWLU. It covers the handling, storage, disposal, and recycling of both hazardous and non-hazardous waste produced by university activities.

3. Objectives

- Minimize the amount of waste generated on campus.
- Maximize the recycling and reuse of materials.
- Reduce the volume of waste sent to landfills.
- Comply with all applicable waste management regulations in Uzbekistan.
- Promote awareness among the university community about sustainable waste management practices.

4. Waste Classification

Waste at USWLU will be classified into the following categories:

- Recyclable Waste:** Paper, plastic, glass, metals, and other materials suitable for recycling.
- Non-Recyclable Waste:** Materials that cannot be reused or recycled and must be sent to a landfill.
- Hazardous Waste:** Chemicals, electronic waste, and other materials that require special handling and disposal to prevent harm to human health and the environment.
- Organic Waste:** Food waste and other biodegradable materials.

5. Waste Management Procedures

- Segregation:** Waste must be segregated at the source by using clearly labeled containers for recyclables, non-recyclables, hazardous, and organic waste.
- Collection and Disposal:** Waste collection will be managed by the Facilities Management Department. Recyclable and non-recyclable waste will be collected separately to ensure appropriate processing.
- Hazardous Waste Handling:** Hazardous waste must be stored in designated areas and collected by licensed disposal agencies in compliance with local laws.

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- Organic Waste Composting:** Organic waste will be composted on campus, where feasible, to reduce the volume sent to landfill.

6. Monitoring and Reporting

- Measurement of Waste:** The Facilities Management Department will regularly measure the amount of waste sent to landfills and the amount recycled. This data will be used to set benchmarks and goals for waste reduction.
- Annual Report:** An annual report on waste management performance will be prepared and presented to the university leadership to track progress and identify areas for improvement.

7. Responsibilities

- Facilities Management Department:** Responsible for coordinating waste collection, monitoring waste volumes, and ensuring compliance with regulations.
- Faculty, Staff, and Students:** Expected to follow waste segregation guidelines, reduce waste generation, and promote sustainable practices within their departments and classrooms.
- Contractors and Visitors:** Required to adhere to the university's waste management policies during their time on campus.

8. Awareness and Training

- Regular workshops and seminars will be conducted to educate the university community on waste management, recycling, and sustainable practices.
- Informational posters and guides will be displayed throughout campus to encourage proper waste segregation and disposal.

9. Compliance and Enforcement

Non-compliance with this policy may result in disciplinary action. Continuous violations will be reviewed by university management and appropriate corrective measures will be taken.

10. Review of Policy

This policy will be reviewed every two years to ensure its effectiveness and alignment with national regulations and best practices in waste management.

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

<https://www.uzswlu.uz/backend/web/uploads/pagepdf/icon/17313227292977.pdf>