University : **Uzbekistan State World Languages University (UzSWLU)**
Country : Uzbekistan
Web Address : **https://www.uzswlu.uz/en**

Governance and Digitalization

7.12 Implementation of Sustainability Programs through ICT aligned with UI GreenMetric Criteria

Uzbekistan State World Languages University (UzSWLU) has established an integrated Information and Communication Technology (ICT) ecosystem to support the planning, implementation, monitoring, evaluation, and continuous improvement of sustainability programmes across all university campuses. The University's digital sustainability management framework connects institutional governance, campus operations, education, research, and environmental management through real-time monitoring and data-driven decision-making.

The ICT ecosystem is coordinated by the **Department of Sustainability, Environment and Green Innovation (DSEGI)** in cooperation with the **ICT Center**, the **Finance Department**, and the **International Rankings Department**. Digital platforms provide verified institutional data for sustainability planning, annual reporting, performance evaluation, and international benchmarking, including submissions to the **UI GreenMetric World University Rankings**.

Section A – ICT Platforms Supporting Sustainability Management

No.	ICT Platform	Main Function	Description
1	**UzSWLU Green Data Portal**	Sustainability Monitoring & Reporting	Central digital dashboard integrating sustainability data from energy, water, waste, transportation, green infrastructure, education, research, and governance. Supports KPI monitoring, annual sustainability reporting, and UI GreenMetric evidence management.
2	**Fusion Energy Smart Building Management System (BMS)**	Smart Energy Management	Monitors electricity consumption, solar PV generation (2,240 kW), HVAC systems, lighting, and energy performance through **520 smart building sensors**, enabling real-time monitoring and energy optimisation.
3	**ICT-Based Water Management System**	Water Monitoring	Monitors water consumption, treated water, recycling systems, leak detection, and conservation measures across all campuses, supporting efficient water-resource management.

4	**E-IJRO Institutional Performance Management System**	Planning & Performance Monitoring	Integrates sustainability indicators into institutional planning, departmental performance evaluation, implementation monitoring, and annual reporting across all faculties and administrative units.
5	**GreenMetric Evidence Management Portal**	Evidence Collection & Reporting	Digital repository for collecting, validating, archiving, and managing evidence supporting annual UI GreenMetric submissions across all assessment categories.
6	**AI-Based Sustainability Analytics Module**	Predictive Analysis	Supports predictive analysis of energy demand, environmental performance, and long-term sustainability planning through data-driven forecasting integrated with the Smart BMS.

Section B – ICT Infrastructure Supporting Sustainable Campus Operations

No.	ICT Infrastructure	Purpose	Description
1	Campus-wide High-Speed Wi-Fi	Digital Connectivity	100% Wi-Fi coverage across all academic, administrative, library, and student facilities, supporting digital learning and sustainability management systems.
2	Smart EV Charging Management	Sustainable Mobility	ICT-enabled management of electric vehicle charging infrastructure integrated with renewable energy generation and campus mobility planning.
3	Integrated Digital Dashboards	Decision Support	Real-time dashboards providing university leadership with sustainability performance indicators for evidence-based planning and resource management.

Section C – ICT Performance Indicators (2023–2026)

Indicator	2023	2025	2026
Digital monitoring coverage (academic buildings)	60%	100%	**100%**
Smart building sensors	5	180	**520**
Water leak monitoring sensors	4	9	**14**
ICT maintenance reports per year	215	326	**448**
Average response time to operational alerts	5.2 hours	3.1 hours	**2.2 hours**
Sustainability data accuracy	92%	97%	**98.5%**
ICT user satisfaction	88%	94%	**97%**

Description

The University's ICT ecosystem enables integrated digital management of sustainability across all operational and academic areas. Through the **UzSWLU Green Data Portal**, sustainability

information from smart energy systems, water management, waste management, transportation, biodiversity, education, research, and institutional governance is continuously collected, verified, analysed, and visualised.

The **Fusion Energy Smart Building Management System** provides real-time monitoring of electricity consumption, renewable energy generation, and building performance through a network of **520 smart sensors**, enabling proactive energy management and improved operational efficiency. Complementary ICT systems monitor water resources, institutional performance, sustainability indicators, and GreenMetric evidence, creating a unified digital sustainability management environment.

The University's digital transformation has significantly strengthened sustainability governance by improving data quality, accelerating operational response, supporting predictive planning, enhancing transparency, and enabling evidence-based decision-making. Sustainability indicators are incorporated into institutional planning and monitored through integrated digital dashboards that support annual reporting and continuous performance improvement.

Institutional Impact

Implementation of ICT-based sustainability management has enabled UzSWLU to:

- achieve **100% digital monitoring coverage** across academic buildings;
- integrate sustainability indicators into institutional planning and governance;
- improve the accuracy and reliability of sustainability data used for reporting;
- reduce response time to operational issues through automated monitoring and alerts;
- strengthen evidence-based environmental management and resource optimisation;
- support transparent reporting for national authorities and international university rankings;
- enhance coordination among academic, administrative, and operational units through a unified digital sustainability management system.

The University's ICT ecosystem has become a core component of institutional sustainability governance, supporting continuous implementation of the **Climate Action Plan (2025–2030)** and contributing directly to the achievement of **SDGs 4, 6, 7, 9, 11, 12, 13, and 17**.