



University : Uzbekistan State World Language University
Country : Uzbekistan
Web Address : <https://www.uzswlu.uz/en>

2. Energy and Climate Change (EC)

2.1 ICT-Based Planning, Implementation, and Monitoring of Energy and Climate Change Programs

Uzbekistan State World Languages University (UzSWLU) places strong emphasis on the **use of digital and smart technologies** to plan, manage, and monitor its energy and climate-related programs. ICT has become a central tool for decision-making, ensuring data accuracy, sustainability transparency, and effective institutional coordination.

1. Digital Energy Management and Monitoring

UzSWLU operates a **Smart Energy Monitoring System** across its main buildings and campuses. The system collects real-time data on electricity and heating usage, enabling the university to identify inefficient areas, detect anomalies, and optimize consumption.

- Smart meters are installed in administrative buildings and academic blocks.
 - Monthly analytical dashboards are automatically generated for the Department of Natural Sciences and Technical Support Division.
 - The data are reviewed through an internal digital platform that provides comparative charts, heat maps, and CO₂-equivalent emission estimates.
- This digital oversight has contributed to a **12–15% reduction in energy waste** compared to 2023.

2. ICT in Renewable Energy and Solar Infrastructure

The university's **solar panel network (1,584 kW capacity)** is connected to a cloud-based dashboard that continuously monitors power generation, energy storage, and carbon savings. The platform visualizes the amount of renewable electricity produced each day and its contribution to the total campus energy mix.

The data are shared with both the **Rector's Office and the Sustainability Committee**, ensuring strategic use of green energy and continuous improvement of operational efficiency.

3. Smart Classrooms and Automated Systems

Most modern classrooms and laboratories at UzSWLU are equipped with **ICT-enabled smart lighting and ventilation systems** that automatically adjust based on occupancy and daylight.

- Motion sensors and automatic LED systems reduce unnecessary electricity use.
 - Computerized air-conditioning units are programmed to operate within energy-saving parameters.
 - The "Green Campus" mobile app allows staff to remotely control lighting, heating, and multimedia systems in select buildings.
- These innovations not only reduce energy waste but also cultivate eco-friendly habits among staff and students.



4. ICT-Driven Climate Research, Reporting, and Data Integration

UzSWLU maintains an internal **Sustainability Data Portal**, operated by the Department of Natural Sciences, which compiles quantitative information on:

- Renewable energy generation
- Waste management and recycling
- Water conservation
- Green transport and mobility initiatives

This portal is linked to the university's **annual GreenMetric and THE Impact Rankings submissions**, allowing transparent and evidence-based environmental reporting.

In 2024–2025, the portal was upgraded to include GIS-mapping features, enabling visual tracking of green spaces, tree-planting zones, and biodiversity sites on campus.

5. ICT in Environmental Education and Awareness

UzSWLU actively promotes climate education through **e-learning platforms (Moodle, Microsoft Teams, and Google Classroom)**.

- All sustainability-related courses, including “Environmental Awareness,” “Green Economy,” and “Climate Change Communication,” integrate digital materials, online quizzes, and video lectures.
 - Students participate in **virtual hackathons, digital exhibitions, and online conferences** on renewable energy and sustainable development.
 - Faculty members use **Turnitin and AI-based content analysis tools** to ensure academic integrity in climate and sustainability research.
- This approach ensures that both staff and students acquire digital literacy skills while engaging with global environmental topics.

6. ICT for Governance, Evaluation, and Continuous Improvement

The university's **Sustainability Committee** holds quarterly online meetings to review progress, based on digital dashboards and monitoring reports.

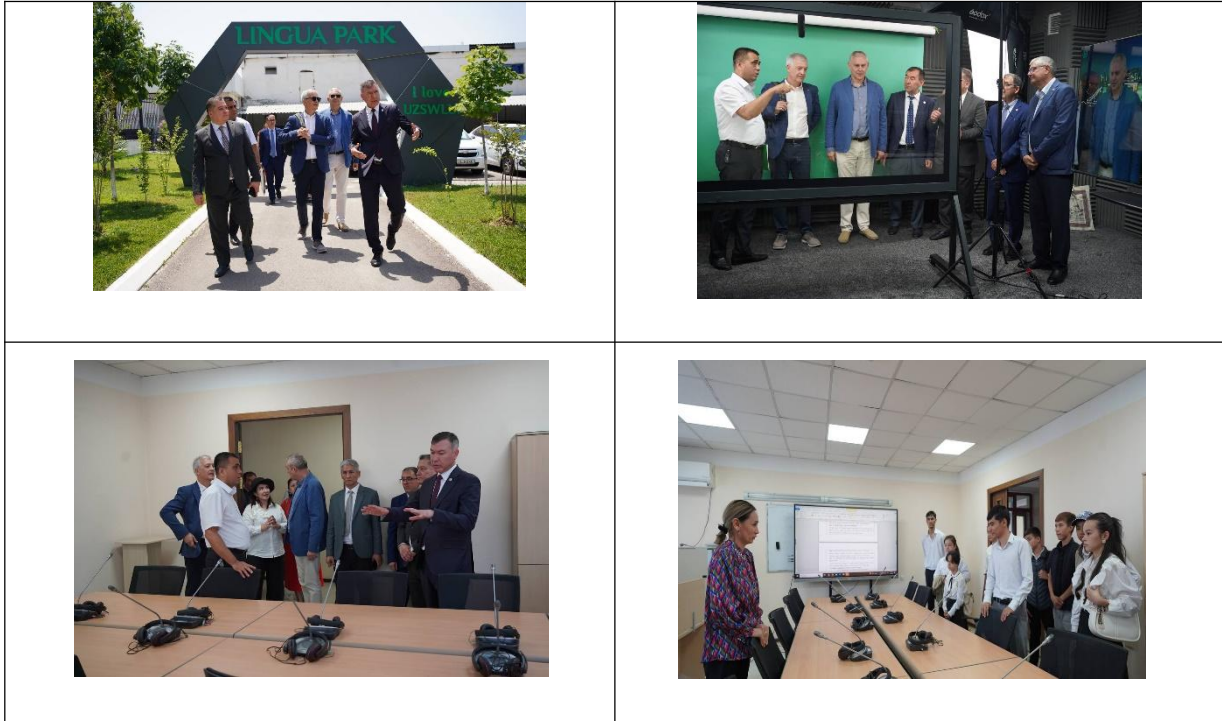
- Feedback loops from each department are recorded through the **UzSWLU e-Governance Portal**, allowing real-time evaluation of sustainability projects.
- Updated data are used to refine the **University Climate Action Plan (2025–2030)** and set measurable emission-reduction targets.
- The ICT infrastructure also facilitates remote audits, enabling internal and external evaluators to access verified environmental data.

Impact and Outcomes

The integration of ICT in energy and climate management has significantly enhanced the efficiency, accountability, and innovation capacity of UzSWLU.

- Energy optimization achieved through smart systems and solar dashboards.
- Real-time transparency and analytics supporting decision-making.
- Broader access to sustainability education through digital learning.

- Strengthened coordination between administrative, academic, and technical units.



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

- <https://t.me/UzSWLU/9329>
- <https://uzswlu.uz/news/quyosh-panellarining-foydasi>
- <https://t.me/UzSWLU/9392>
- https://www.instagram.com/uzswlu_official
- <https://www.facebook.com/uzswlu.uz>
- <https://www.youtube.com/c/Ozbekistondavlatjahontillariuniversiteti>
- <https://t.me/UzSWLU>