



University : UzSWLU
Country : Uzbekistan
Web Address: <https://www.uzswlu.uz/en#>

2. Energy and Climate Change (EC)

2.13 – Number of Innovative Program(s) in Energy and Climate Change

Uzbekistan State University of World Languages (UzSWLU) has introduced several innovative technological programs aimed at improving energy efficiency, air quality, and climate resilience on campus.

Among these, the most prominent is the Smart UVC Air Sterilization and Energy Optimization System, which combines health protection, energy-saving automation, and environmental sustainability in a single integrated framework.

Program 1: Smart UVC Sterilization and Air Quality Management System

Purpose and Functionality

- Installed across six academic buildings, two dormitories, the central library, cafeteria, and the main administration block.
- 118 UVC units operate with intelligent scheduling, motion sensors, and smart lighting integration.
- The system ensures automatic sterilization during non-occupied hours, using low-energy 18.2 kWh/month UVC modules.
- Remote monitoring is conducted through the Fusion Energy and E-Ma'muriyat platforms, allowing energy optimization and real-time air quality control.

Environmental and Energy Impact

Indicator	Result
Sterilized area covered	34,500 m ²
Reduction in absenteeism due to illness	↓ 22.5% (vs. 2023)
Indoor air quality improvement	↑ 31%
Average energy savings	12% (compared to conventional ventilation systems)
CO ₂ reduction	≈ 6.5 tons/year (through optimized electricity use)

Sustainability Integration

- Supports **SDG 3 (Good Health)**, **SDG 7 (Clean Energy)**, and **SDG 13 (Climate Action)**.
- Uses **low-mercury, energy-efficient UVC LED modules**, minimizing environmental footprint.
- Maintenance cycles are automated, lowering staff workload and equipment downtime.



Program 2: Green Linguapark – Eco-Education and Energy Demonstration Zone

A newly established “**Green Linguapark**” on campus serves as both a recreational area and a climate education hub.

It includes solar-powered lighting, smart irrigation, and climate-resilient vegetation, offering real-life demonstrations of **renewable energy use and biodiversity adaptation**.

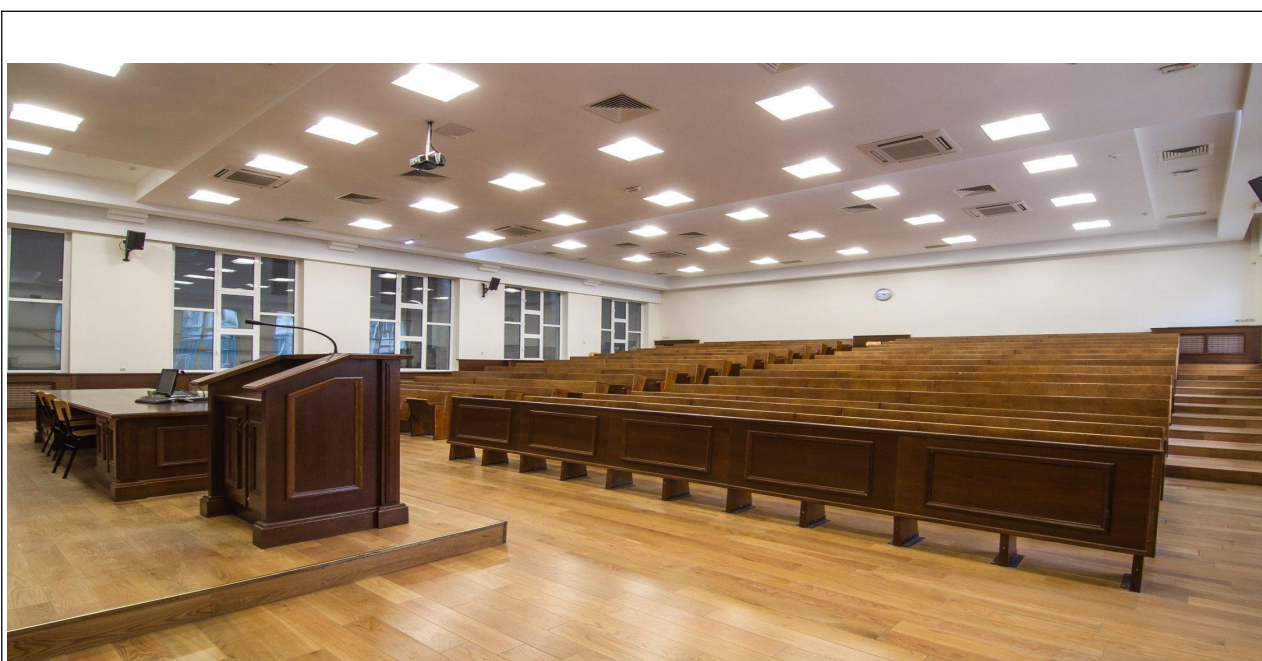
Program 3: Fusion Energy Smart Campus

The university-wide **Fusion Energy platform** monitors real-time energy generation, electricity use, and CO₂ emissions.

It integrates with the UVC systems and building management tools to achieve optimal indoor comfort with minimal energy waste.

Summary of Innovative Programs

No	Program Title	Main Focus	Year Started	Status
1	Smart UVC Sterilization & Air Quality System	Indoor climate health, energy optimization	2023	Active
2	Green Linguapark Initiative	Renewable energy and biodiversity	2024	Active
3	Fusion Energy Smart Campus	Real-time energy and CO ₂ monitoring	2022	Active



Smart room sterilization system using UVC rays (UzSWLU)

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