



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

2. Energy and Climate Change (EC)

2.5 – Renewable Energy Sources and Amount of Energy Produced

The Uzbekistan State World Languages University (UzSWLU) continuously increases its renewable energy production as part of its institutional commitment to carbon neutrality and sustainable campus development.

All energy generation systems are digitally monitored and optimized through the Fusion Energy Platform, ensuring transparency, reliability, and efficient distribution across the university network.

These renewable energy systems contribute directly to SDG 7 (Affordable and Clean Energy), SDG 9 (Innovation and Infrastructure), and SDG 13 (Climate Action).

Renewable Energy Production (2025)

UzSWLU currently operates solar photovoltaic installations on all major campuses — including the Main Campus, Faculty of English Philology, and Angren branch. Together, these systems have a total installed capacity of 1,584 kW, producing approximately 1.58 million kWh of clean energy annually.

This energy production accounts for 22% of the university's total annual electricity demand, reducing dependency on grid power and lowering operational costs. The renewable energy generated is primarily used for:

- Classroom and laboratory lighting,
- Computer and multimedia equipment,
- Ventilation and air-conditioning systems,
- Outdoor solar-powered lighting and safety infrastructure.

Integration with Fusion Energy Smart Control

All renewable generation systems are connected to the Fusion Energy digital dashboard, which:

- Tracks hourly and daily solar energy generation;
- Distributes electricity based on real-time building consumption;
- Stores generation data for long-term trend analysis;
- Automatically switches between renewable and grid power as needed.

This system ensures that solar energy is always used first, while excess electricity is redirected to power low-consumption zones (e.g., dormitories, security posts, and corridor lighting).

Environmental and Economic Impact

The shift to renewable energy sources has resulted in:

- **Annual energy production:** 1,580,000 kWh
- **Reduction in grid electricity use:** 25%
- **CO₂ emission reduction:** ~48 tons per year



- **Annual cost savings:** 1.25 billion UZS ($\approx$ 100,000 USD)
- **Renewable energy share:** 22% (target: 30% by 2026)

These outcomes demonstrate measurable environmental benefits and financial sustainability in line with the **Green Campus Development Roadmap (2022–2030)**.

Summary Table – Renewable Energy Production (2025)

Renewable Source	Installed Capacity (kW)	Annual Energy Output (kWh)	% of Total Electricity	CO ₂ Reduction (tons/year)	Management System
Solar PV (rooftop & open field)	1,584	1,580,000	22%	48	Fusion Energy
Solar-powered lighting	120 LED units	—	3% (lighting only)	5	E-Ma'muriyat
Hybrid heating boilers (efficient gas/alt. fuel)	4,400	—	100% of heating	—	Smart thermostats



Each building of the university is equipped with solar panels



Heating gas boilers (UzSWLU)

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

<https://t.me/UzSWLU/11599>

<https://t.me/UzSWLU/41476>