A BRIEF REPORT

on Energy Efficiency and Climate Change Action at Navoi State University of Mining and Technologies



Energy-Efficient Appliances Usage:

The university is actively improving energy efficiency through the use of advanced technologies and appliances:

Appliance	Total Units	Energy-Efficient Units	Efficient
LED Lamps	14,814	14,814	100%
Air Conditioners	161	156	96.8%
PC Computers	911	761	83.5%
Smartboards	65	65	100%
Printers	106	106	100%

- **LED Lighting:** 100% buildings covered
- **Energy Monitoring:** Smart meters and BMS installed
- **Daylight Optimization:** Natural sunlight used in classrooms and dorms
- **Solar Absorption AC System:** Reduces energy load during summer

Renewable Energy Production:

Source	Production in 2025
Solar Panels	570,000 kWh
Wind Mills	1,314 kWh
Total	**571,314 kWh**

- **Electricity Usage in 2025:** 540,000 kWh
- **Ratio *(Renewables / Usage)*:** 105.8%
- **Production during 2025:** 571,314 kWh
- **Energy sold to external organizations:** 107,178 kWh
- **Net Profit while in 2025:** 6,900 USD
- **Heating:** All buildings use solar water heaters and geo-power systems

Total Carbon Footprint while in 2025:

Source	**Emissions** *(Metric Tons)*
Electricity	453.6
Shuttle Buses	1.2
Cars	3.9
Motorcycles	0
Total	**458.7**

- **Vehicles restricted on campus:** no motorcycles allowed

Impactful University Programs on Climate Change:

1. **Master's Program in Eco-Mining** *(EMINReM)***:** International collaboration to train sustainable mining professionals;
2. **Green Space Initiative:** Reforestation and biodiversity projects;
3. **Dust & Drought-Resistant Plant Program:** Environmental restoration in industrial areas;
4. **Greenhouse & Reservation Field:** Research and education in sustainable agriculture;
5. **Innovative Climate Research:** Multiple SCOPUS-indexed articles on energy efficiency, mining, and emissions.

Green Building & Infrastructure:

- **Smart Campus Area:** 51,628.8 m²
- **Systems Used:** BMS, BAS, BIM, smart electric meters
- **Rainwater Harvesting:** Used for showers and toilets
- **Natural Ventilation & Lighting:** Architectural design reduces energy demand
- **Sustainability Office:** Equipped with green technologies and eco-friendly materials

Key Achievements:

- Energy demand fully met by renewable sources in 2025;
- Carbon footprint significantly reduced;

- Revenue generated from surplus green energy;
- Integration of sustainability into academics, research, and infrastructure.

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