

ANNUAL PROGRESS REPORT ON THE GOALS AND TARGETS WE COMMITTED 202 -2025

**SUSTAINABLE DEVELOPMENT
GOAL PROGRESS**





Sustainable Development Goal 7 (SDG 7) aims to make energy accessible, clean, and sustainable for everyone by 2030. Energy is essential for development — it powers homes, schools, hospitals, industries, and transportation — but it must come from clean and renewable sources to protect the planet.

Main Targets

Universal Access:

Ensure everyone has access to affordable, reliable, and modern energy services.

Renewable Energy:

Increase the share of renewable energy (like solar, wind, hydro, and geothermal) in the global energy mix.

Energy Efficiency:

Double the rate of improvement in energy efficiency (using less energy to produce more output).

International Cooperation:

Strengthen cooperation to expand energy infrastructure and clean energy technology in developing countries.

Infrastructure and Technology:

Promote investment in energy research, clean energy technology, and infrastructure for sustainable energy.



Startup name: Smart Stop – Smart Bench with Solar Panel

Date establish: 1.10. 2025

Income: 300- 350 USD

Revenue: 400 000 – 500 000 USD

Employees: Project Manager – Management Specialist

Technical Director – Engineer

Marketing Manager – Advertising and Sales

Description:

Today, renewable energy is recognized as the energy of the future, and every renewable energy source represents an investment in sustainability. The Smart Stop project is an innovative solution designed to integrate renewable energy technology into everyday urban life. This smart bench uses solar panels to generate electricity and offers multiple public utilities in one intelligent, eco-friendly design.

Problem Addressed:

The project aims to solve several urban infrastructure problems, such as:

Frequent power outages;

Lack of public comfort features, including lighting and charging ports;

Absence of information systems and digital connectivity in public spaces.

Expected Results and Functions:

Through the implementation of the Smart Stop – Smart Bench with Solar Panel project, the following outcomes will be achieved:

Generation of electricity using solar panels;

LED lighting system for night visibility;

USB charging ports for mobile devices;

Real-time schedule display for public transport;

Wi-Fi hotspot for free internet access;

Temperature monitoring sensors;

Security camera and emergency (SOS) button;

Digital advertising screen for informational and commercial purposes.

Technical Specifications:

Solar panels: 1.2 kW

Battery capacity: 1 kW

Smart display + Wi-Fi system

LED monitor

Dimensions:

Height: 2.2 m

Front length: 3.0 m

Side length: 1.5 m

Team Members:

Project Manager – Management Specialist

Technical Director – Engineer

Marketing Manager – Advertising and Sales

Impact:

The Smart Stop project combines modern technology, renewable energy, and urban comfort to create sustainable, intelligent public spaces. It contributes to energy efficiency, digital transformation, and smart city development, while promoting environmental awareness and user convenience.



Energy Efficiency Assessment Training for NMMC Workshop Managers

Navoi State University organized an intensive Energy Efficiency Assessment Training Program for 28 workshop managers and engineers from the Navoi Mining and Metallurgy Company (NMMC), one of the region's largest industrial energy consumers.

The training aimed to strengthen NMMC's internal capacity to identify avoidable electricity losses and improve operational efficiency across production workshops. NSU's Environmental Protection specialists delivered a series of technical modules covering:

- Energy-use measurement techniques, including the correct use of portable meters, infrared thermometers, and monitoring devices;
- Identification of high-consumption machinery, with a focus on motors, welding units, ventilation systems, and compressed-air equipment;
- Detection of heat loss in industrial buildings, pipelines, and furnaces using thermographic observation methods;
- Compressor efficiency analysis, including leak detection, pressure optimization, and maintenance-based energy reduction.

Participants engaged in a hands-on "Mini Energy Audit" practicum, assessing real workshop equipment, recording consumption patterns, and preparing short audit reports. They were later encouraged to conduct similar assessments in their own production units and share the results with the NMMC efficiency committee.

Solar Lighting Pilot with a Small Industrial Firm in Navoi

As part of a community-industry collaboration, NSU partnered with a small metal-processing enterprise near Navoi to install trial solar-powered outdoor lighting units.

Environmental Protection students carried out site analysis, recommended optimal panel orientation, and monitored electricity reductions over 3 months.

The pilot demonstrated a noticeable decrease in nighttime electricity consumption.



Industry Training Program on Environmental & Energy Reporting Requirements

Navoi State University launched a hands-on training course designed for local industries that must submit environmental and energy-related reports to regional authorities. The program brought together specialists from the Navoi Free Industrial Economic Zone (NFEZ), NMMC subcontractors, and several service-sector companies. During the session, university experts explained how to correctly prepare annual energy-consumption reports, calculate energy-related emissions, identify peak load periods, and compile sustainability documentation in line with national requirements. Participants were also provided with standardized reporting templates adapted to Uzbek regulatory frameworks, enabling companies to streamline their reporting processes and improve the accuracy of submitted data.



“Energy Awareness Week” for Local Businesses and Public Institutions

Navoi State University organized a week-long energy saving campaign targeting businesses from NFEZ, educational institutions, and community organizations. Events included public lectures, demonstrations of efficient appliances, assessment stands for measuring equipment consumption, and free advisory sessions. Brochures prepared by NSU Environmental Protection students were distributed to over 300 local workers.

University–Community Green Awareness Initiative

Following the announcement of Presidential Decree PF-61, the university organized small informative sessions and awareness meetings for the nearby community. These sessions explained the main ideas of the decree, including the promotion of environmental protection, green initiatives, renewable energy use, youth-led ecological projects, and opportunities related to the ‘Yashil tashabbuslar’ (Green Initiatives) Fund. The outreach aimed to increase environmental awareness, support youth ecological activities, and encourage community participation in sustainable practices.



International Solar Day School Training on Clean Energy

In celebration of International Solar Day on 3 May, a peer-to-peer educational training was organized for local school students by an active member of the Young Environmentalists at Navoi State University in Navoi. The session introduced students to the environmental value of solar energy and its role in building a sustainable future. Through interactive activities, participants learned how solar radiation can be converted into clean energy, the importance of protecting the environment, and the development of ecological awareness among young people.

This outreach event played an important role in fostering environmental responsibility and inspiring the younger generation to take their first steps toward a greener future.

Environmental culture should become a lifestyle for every citizen

An outreach-focused round-table discussion was held at the Faculty of History of Navoi State University in cooperation with the Navoi Regional Council of the Ecological Party of Uzbekistan and the regional branch of the Republican Center for Spirituality and Enlightenment. The event aimed to promote the essence and significance of the Presidential Decree of 15 May 2025, 'On the Concept for Enhancing the Environmental Culture of the Population for the Period up to 2030,' to the wider community, with special emphasis on youth.

During the session, speakers discussed how strengthening environmental culture is closely connected to climate action, energy efficiency, and the transition to clean and renewable energy sources. Participants examined how responsible energy use, green technologies, and improved ecological literacy contribute to national sustainability goals.

Special attention was also given to the historic meeting held between the President and young people on 14 February 2025. The ideas expressed during this dialogue — particularly those related to ecology, education, and youth empowerment — were highlighted as a symbol of the trust and responsibility placed on the younger generation in advancing environmental protection and clean-energy awareness across society.





“Dolzarb 90 Kun” Outreach Activities for Youth Engagement and Clean Energy Awareness

As part of the national ‘Dolzarb 90 kun’ initiative, a series of outreach activities were organized to ensure that university students spend their summer break meaningfully while enhancing their intellectual, cultural, and scientific potential. Across higher education institutions, various educational, scientific, sports, and creative events were held.

At Navoi State University, the program also integrated environmental and clean-energy awareness components to strengthen students’ understanding of sustainability. Through thematic sessions, youth were introduced to the importance of energy efficiency, the role of renewable energy in reducing climate risks, and the need for responsible energy consumption in everyday life. These activities helped promote ecological culture, climate-conscious thinking, and a proactive attitude toward sustainable development among young people.

Protecting Nature — A Nationwide Movement

Today, on 16 September, a round-table discussion was held at the Faculty of History of Navoi State University in cooperation with the Navoi Regional Council of the Ecological Party of Uzbekistan. During the event, students were informed about the essence and importance of Presidential Decree PQ–184, adopted on 15 May 2025, which outlines key tasks related to enhancing environmental culture, promoting rational use of natural resources, and supporting the transition toward a green and energy-efficient economy.

In connection with International Day for the Preservation of the Ozone Layer, additional information was provided on global initiatives for ozone protection, the significance of the Montreal Protocol, and current measures being implemented in Uzbekistan. Speakers emphasized the importance of reducing harmful emissions, adopting environmentally friendly and energy-saving technologies, and strengthening national efforts toward climate resilience.

The session also highlighted that the active participation of young people in ecological projects, clean-energy awareness campaigns, and sustainability initiatives can make a meaningful contribution to achieving long-term environmental stability. Promoting environmental responsibility and a culture of clean and efficient energy use among students stood as one of the key goals of the discussion.



Navoi State University is strengthening its academic and scientific foundation in the field of sustainability by expanding educational opportunities and investing in dedicated research structures. Beginning from the 2025/2026 academic year, the university will introduce new bachelor's and master's degree programs in ecology and environmental protection, reflecting the growing national and global demand for specialists capable of addressing issues such as environmental management, energy use, resource efficiency, and climate-related challenges. These programs are designed to equip students with both theoretical and practical knowledge, preparing future professionals who can contribute to environmentally responsible development and the adoption of cleaner technologies.

Supporting this academic expansion is the university's Research Center on Environmental Sustainability, operating within the Biology Department. The center functions as a hub for interdisciplinary scientific work and focuses on key environmental challenges that are closely connected to sustainable development. Its research covers areas such as the impacts of climate change on local ecosystems, biodiversity conservation, pollution reduction, clean energy, sustainable land and water use, and ecosystem resilience. By conducting applied research, engaging students in field and laboratory work, and collaborating with national and international partners, the center plays an essential role in generating new knowledge and practical solutions that support environmentally responsible practices across different sectors.

- Among the various research directions, a strong emphasis is placed on environmental sustainability, including:
- Climate Change and Ecosystem Resilience** – Investigating how climate change affects local ecosystems and identifying adaptation strategies that support long-term environmental stability.
 - Biodiversity and Conservation Studies** – Conducting research on rare and endangered species, including those listed in the “Red Book,” and developing effective conservation methods.
 - Sustainable Agriculture and Soil Health** – Examining ways to improve land-use efficiency, soil fertility, irrigation practices, and overall water conservation in agricultural systems.
 - Pollution Control and Waste Management** – Researching innovative techniques to reduce environmental pollution, improve waste processing, and expand recycling practices.
 - Clean Energy and Renewable Resource Studies** – Carrying out pilot research on micro-hydropower systems, wind-energy potential, and solar-energy monitoring. These research activities support the understanding of renewable energy technologies and contribute to the development of cleaner, more efficient energy systems for the university and the wider region.



LED Lamps (100% Energy-Efficient Lighting)

Navoi State University has fully transitioned to energy-efficient LED lamps, with all 180,000 lighting units across academic buildings, administrative offices, corridors, laboratories, and outdoor areas replaced by LED technology. This represents a 100% conversion rate, making LED lighting the university’s largest and most effective energy efficiency upgrade.

The adoption of LED lamps significantly decreases electricity consumption due to their lower wattage requirements and superior luminous efficiency. LEDs also offer a much longer operational lifespan compared to traditional incandescent or fluorescent bulbs, reducing maintenance needs and material waste. By using LEDs as the standard lighting source, the university lowers its overall energy demand, reduces carbon emissions linked to electricity production, and enhances lighting quality in learning and working environments.

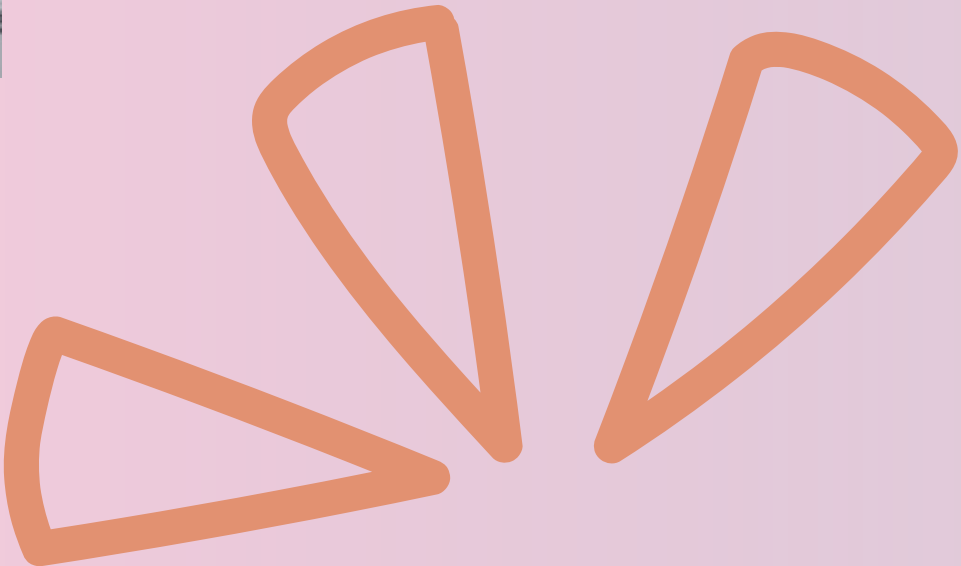
This complete transition to LED lighting demonstrates the university’s strong commitment to sustainable infrastructure and efficient resource management.



Temperature and Humidity Indicators

Navoi State University uses temperature and humidity indicators throughout classrooms, laboratories, and specialized learning spaces to maintain efficient and healthy indoor environmental conditions. These digital sensors continuously monitor real-time air quality parameters and provide accurate data that supports the regulation of heating, ventilation, and cooling systems.

By adjusting HVAC operations based on actual indoor conditions rather than fixed schedules, the university significantly reduces unnecessary energy consumption. This ensures that cooling or heating is activated only when required, preventing excessive electricity use and improving overall system efficiency. The use of these indicators enhances indoor comfort for students and staff while directly contributing to the reduction of carbon emissions associated with building climate control.



Smart Water Control System (Gidrolock Technology)

Navoi State University has incorporated Gidrolock Premium Bugatti 1/2 smart water control systems into its dormitories, laboratories, and administrative buildings to strengthen water efficiency and facility safety. This advanced technology uses highly sensitive floor-mounted sensors to detect even minor leaks and immediately activates automated valves to shut off the water supply. By responding within seconds, the system prevents unnecessary water loss, protects university infrastructure from flooding, and reduces the environmental and financial costs associated with water damage repairs.

The Gidrolock system operates reliably even during power outages due to its built-in backup battery, ensuring uninterrupted protection at all times. Through this smart automation, the university reduces water waste, supports sustainable resource management, and enhances climate resilience across campus buildings. Additionally, the presence of such modern eco-smart technologies provides students with valuable practical exposure to contemporary facility management and sustainability solutions.



Monoblock (All-in-One) Computers

Navoi State University utilizes energy-efficient monoblock computers across computer laboratories, administrative departments, and teaching facilities. These all-in-one devices combine the monitor and CPU into a single integrated unit, resulting in significantly lower power consumption compared to traditional desktop systems with separate components. By using compact hardware and low-energy processors, monoblocks reduce electricity demand during both active use and idle periods.

In addition to their electrical efficiency, monoblock computers generate less heat, which decreases the burden on cooling and ventilation systems—further contributing to campus-wide energy savings. Their minimal cable requirements also create cleaner, safer, and more organized workspaces, aligning with the university's goal of promoting modern, eco-friendly digital infrastructure.



Monitoring and Oversight

The construction site is periodically monitored by the Rector, Vice-rector for Capital Construction, the Unit for the Coordination of Construction Works, and the Sustainability Committee.

These bodies ensure that building materials, design practices, and energy systems fully align with sustainability standards and the PF-16 implementation roadmap.

Student Involvement

Students, faculty, and volunteer groups from the Faculty of Exact Sciences the Faculty of Languages and others have visited the new construction site, learning about smart energy systems and sustainable architecture.

As reported:

“Navoiy davlat universiteti Aniq fanlar fakulteti dekani prof. D.I. Kamolova, dekan o‘rinbosari G‘.G‘. Yusupov, fakultet tyutorlari hamda fakultet volontyor talabalari bilan birgalikda yangi kampus qurilishi bilan tanishdilar. Quruvchi tashkilot vakillari tomonidan 19 gektarlik hududda barpo etilayotgan, 2027-yilda yakunlanishi rejalashtirilgan, 12 ming o‘rinli o‘quv binolari va 2,400 o‘rinli talabalar turar joylari bo‘lgan talabalar shaharchasi haqida batafsil ma‘lumot berildi.”

This visit demonstrates transparency, academic engagement, and community participation in the university’s green infrastructure planning.



Governance and Monitoring

Implementation of all energy-efficiency measures is coordinated by:

Unit for the Coordination of Construction Works – oversees physical upgrades and compliance with design standards;

Sustainability Committee – ensures environmental sustainability and renewable integration;

Energy and Sustainability Office – manages energy data, prepares annual performance reports, and monitors improvement progress.

Energy-efficient infrastructure serves as a teaching and research platform for NSU’s students and staff.

Courses in engineering, ecology, and IT now include practical modules on renewable energy monitoring, smart building systems, and environmental management.

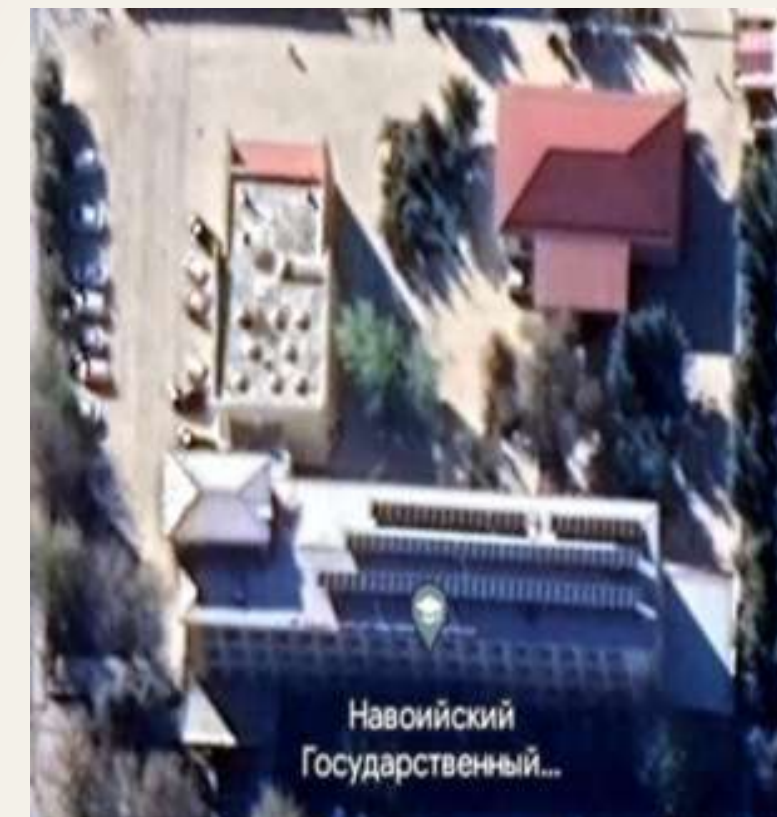
Moreover, student groups participate in Eco-Intellectual Competitions, sustainability campaigns, and Conferences, all of which reinforce the university’s role as a regional leader in climate education and innovation.

Thanks to this expanded solar network, NSU's renewable electricity generation now exceeds its actual electricity consumption. The university produces 887,800 kWh of solar, wind, and micro-hydro energy annually compared with its total electricity usage of 750,525 kWh. This means the university achieves 118.3% energy self-sufficiency, making it a net producer of clean energy for the surrounding community. In addition to photovoltaic systems, the university has installed 45 solar water-heating systems (solar boilers) across dormitories, laboratories, and campus cafeterias. These systems play a crucial role in reducing seasonal electricity and gas consumption by delivering hot water through solar thermal technology, especially during the colder months. Solar boilers significantly lower operational costs while eliminating emissions associated with conventional water-heating methods.



Together, the solar panel network and solar boiler systems form a comprehensive, campus-wide renewable energy initiative that directly strengthens the university's energy efficiency performance, carbon reduction outcomes, and alignment with national strategies such as the Uzbekistan–2030 Strategy and Presidential Decree PF-16. This initiative also reflects NSU's strong commitment to the sustainable development goals, which emphasize renewable energy adoption, energy-efficient operations, and sustainable campus planning.

Through continuous investment, strategic expansion, and integration of solar technologies, Navoi State University has successfully built a resilient and environmentally responsible energy system that supports academic activities while minimizing carbon emissions, lowering operating costs, and contributing positively to the regional energy landscape.



Wind Power as a Complementary Renewable Energy Source at Navoi State University

Navoi State University is expanding its renewable energy portfolio by integrating wind power as an additional clean electricity source on campus. Unlike solar installations, which operate most effectively under strong sunlight, wind systems allow the university to generate renewable energy during evening hours, cloudy days, and seasons with lower solar intensity. This complementary nature makes wind power a strategic part of NSU's long-term energy diversification efforts. Small-scale wind generators have been installed in open campus zones with favorable airflow, where they harness natural wind movements to produce electricity. The energy generated is used to support outdoor lighting, selected research facilities, and auxiliary power needs, helping to lower the university's reliance on grid electricity and reduce carbon emissions. Even at a modest scale, these turbines contribute to continuous clean energy production throughout different weather conditions.



Micro-Hydropower Development at Navoi State University

Navoi State University is actively expanding its renewable energy portfolio by exploring and developing micro-hydropower systems as part of its broader commitment to environmental responsibility and clean energy innovation. While the installation of large-scale hydroelectric plants is not feasible within the physical boundaries of the university, NSU has introduced small-scale hydropower technologies that utilize the natural and artificial water flows present in the region. As part of this initiative, the university has implemented pilot micro-hydro systems in irrigation channels and nearby water bodies that provide consistent, controlled water flow. These compact systems harness the kinetic energy of moving water and convert it into clean electricity suitable for powering campus lighting, laboratory equipment, and small technical facilities. By capturing energy from existing water resources, the university generates additional renewable electricity without requiring extensive infrastructure or causing environmental disruption.



Community Outreach Roundtable on Environmental Culture and Clean Energy Awareness

A community outreach round-table was held in cooperation with the Navoi Regional Council of the Uzbekistan Ecological Party and the Faculty of Preschool and Primary Education of Navoi State University. The purpose of the event was to widely communicate the essence of Presidential Resolution PQ–184 (15 May 2025), which approves the ‘Concept for Enhancing the Environmental Culture of the Population for the Period up to 2030,’ to the broader public.

During the discussion, participants explored how building strong environmental culture is essential for a sustainable future, emphasizing responsible energy use, the importance of transitioning to clean and renewable energy, and the role of green technologies in reducing ecological risks. The outreach session helped raise environmental and clean-energy awareness among students and the community, encouraging active participation in national climate and sustainability initiatives.

Annual “Invention and Rationalization” Competition: Call for Participants!

Are you an inventor? Do you have a rationalization idea that can benefit society—especially in the fields of sustainability, clean energy, or resource efficiency?

Each year, the Ministry of Higher Education, Science and Innovation, together with the National Office of Innovations, organizes the Annual “Invention and Rationalization” Competition, inviting talented young innovators from across Uzbekistan to present their ideas and solutions.

Projects are evaluated according to the following criteria:

- ✓ relevance to energy and resource efficiency, development of modern technologies, or creation of new materials;
- ✓ potential to solve environmental protection challenges;
- ✓ social significance and the value the innovation can bring to society;
 - ✓ readiness for practical application;
 - ✓ potential for export or import substitution.

Eligibility requirements for participants:

- ✓ Uzbek citizens aged 16 to 40;
- ✓ possession of a specific invention, utility model, or rationalization proposal;
- ✓ availability of a project prototype ready for demonstration.

Winners of the 1st, 2nd, and 3rd places receive one-time monetary awards equivalent to 300, 250, and 200 basic calculation units respectively, along with official certificates.

Applications are accepted annually until October 6 of each year.

This ongoing competition serves as an important national platform to promote innovation, encourage youth creativity, and support clean-energy and sustainability-oriented technological solutions.





Conclusion

Sustainable Development Goal 7 focuses on ensuring access to affordable, reliable, sustainable, and modern energy for all. Achieving this goal is essential for reducing poverty, improving health and education, and protecting the planet from the harmful effects of climate change. Clean and renewable energy sources such as solar, wind, and hydropower are vital for creating a sustainable future.

In this regard, Navoiy State University is actively contributing to SDG 7 through various initiatives aimed at promoting energy efficiency and the use of renewable resources. The university has implemented “Green Campus” projects that encourage energy conservation and eco-friendly practices among students and staff. Solar panels have been installed on university buildings to generate clean electricity, reducing reliance on traditional energy sources. Additionally, awareness seminars and scientific conferences are held regularly to educate students about renewable energy technologies and sustainable energy management.

Through these actions, Navoiy State University not only supports Uzbekistan’s transition toward a green economy but also serves as a model institution that inspires youth to innovate for a cleaner and more sustainable energy future.

