



# **KHALEL DOSMUKHAMEDOV ATYRAU UNIVERSITY**





Dosmukhamedov Atyrau University contributes to the achievement of the UN Sustainable Development Goal No. 12 "Responsible consumption and production" through the development of environmental education, the promotion of the principles of circular economy, the introduction of separate waste collection practices and the implementation of scientific research aimed at the rational use of resources and reducing environmental burden.



## What does this mean for Atyrau University



The University considers responsible consumption and production as an important element of sustainable development. Special attention is paid to the formation of students' ecological culture, the introduction of modern waste management methods, the development of environmental innovations and the support of research in the field of sustainable environmental management.



## Waste management and circular economy

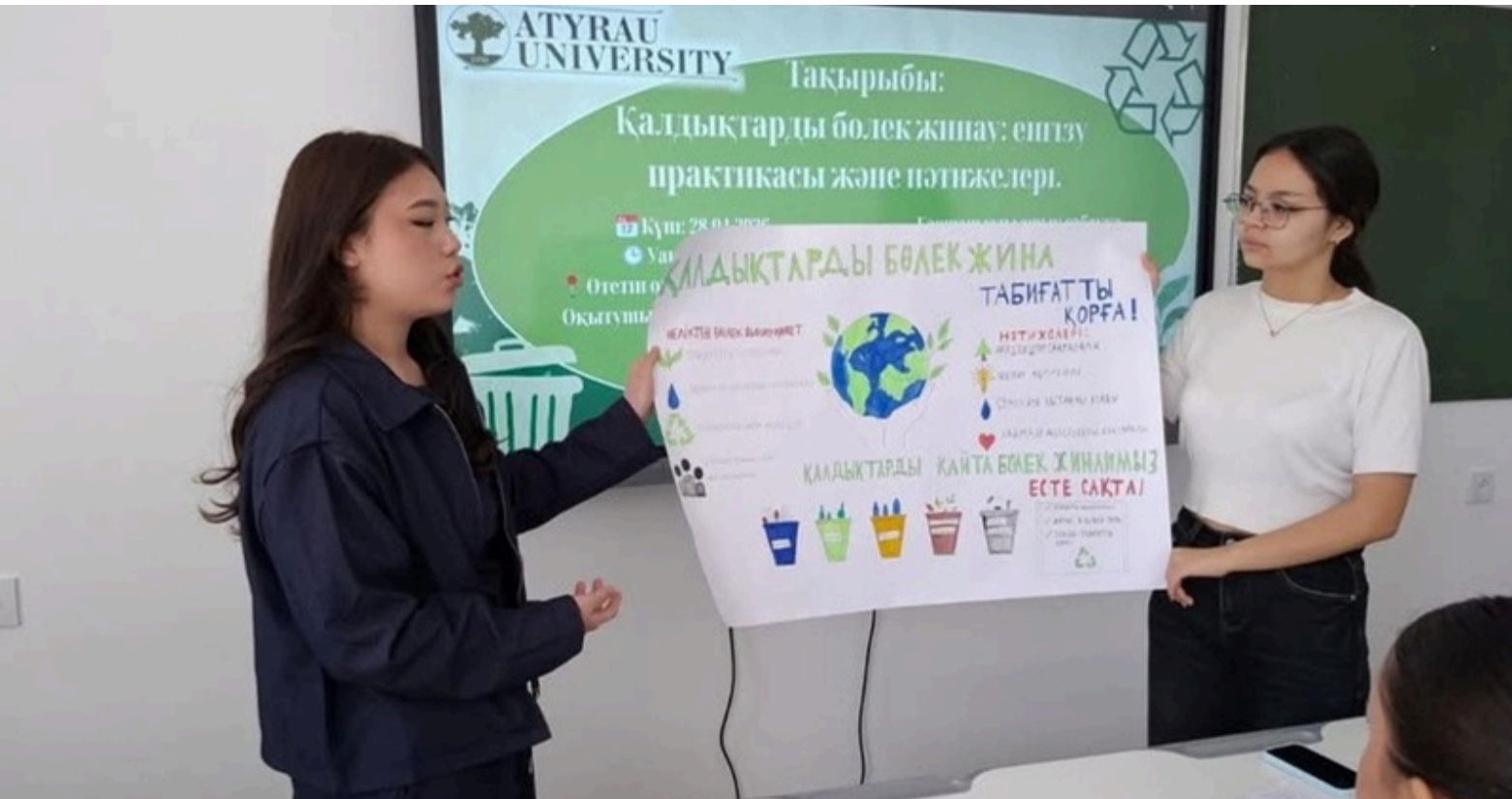
One of the key activities of the university is the formation of a culture of separate waste collection and reuse of resources. Since 2022, the university has been cooperating with the Ecodamu organization, implementing a program for separate waste collection and regular waste paper collection. Thanks to the systematic work on the development of ecological culture among students and staff, the university entered the TOP 5 organizations of Atyrau city for waste paper collection among universities, colleges and schools. As part of environmental initiatives, students actively participate in projects to reduce waste and promote the principles of responsible consumption.







## Environmental education and the formation of ecological culture



The University regularly hosts educational events aimed at improving environmental literacy and fostering environmentally responsible behavior.

A guest lecture "Waste and Spill Management" with the participation of West Dala specialists was organized for students of the educational programs "Applied Ecology", "Ecoanalytics" and "Waste Management". The participants got acquainted with modern waste management methods, pollution elimination technologies and practical aspects of environmental safety.

An additional contribution to the development of ecological culture was made by the open lesson "Separate waste collection: implementation practices and results", as well as the training "Environmental Etiquette", dedicated to waste sorting, environmentally responsible lifestyle and sustainable consumption.



## Environmental innovations and student projects

A significant contribution to the development of the principles of circular economy is made by the activities of the Ecos environmental circle.

As part of the national campaign "Taza Kazakhstan", innovative environmental projects of students aimed at solving urgent environmental problems of the region were presented.

Among the projects:

- creation of epoxy resin products using glass waste;
- production of sulfur concrete from sulfur waste;
- manufacture of paving stones using cigarette waste;
- development of bioplastics from local raw materials.

These projects demonstrate the practical application of the principles of resource reuse and the development of environmentally sound waste recycling technologies.

An additional event was the defense of projects on the "Waste-free lifestyle", in which students presented solutions based on the 5R principle (Refuse, Reduce, Reuse, Recycle, Rot) and modern approaches to sustainable waste management.





## Sustainable production and environmental responsibility



An important area of the university's activity is the study of issues of environmental responsibility of business and sustainable production. A guest lecture by Embamunaigas specialists on the topic "Ecology of production" was organized for the students. The Carbon footprint of Production", which examined modern approaches to reducing the environmental impact of production processes, emission monitoring methods and corporate environmental responsibility programs.

In addition, the Department of Economics has implemented a scientific project "Introduction of a rotary grazing system in the Zhylyoy district of Atyrau region", aimed at sustainable use of land resources and ensuring food security in the region.



## Research and innovation

University scientists are implementing research aimed at improving resource efficiency, recycling materials and developing environmentally sustainable technologies.

Scientific developments and publications include:

- AP19679897 "Development of an intelligent decision support system for managing the production of petroleum coke";
- Recycling of Polypropylene with Vitamin E Additives: Rheological Properties and Mechanical Characteristics;
- Environmental-Economic Instruments of Environmental Policy;
- Analytical review of the marketing research of consumer demand for organic vegetables in Atyrau region;
- Analysis of energy supply in the housing sector of the Republic of Kazakhstan;
- development of an environmentally safe deicing drug.

The results of these studies contribute to the development of environmentally sustainable production, rational use of resources and the introduction of the principles of circular economy.





## FUTURE STEPS TOWARDS ACHIEVING SDG 12

Atyrau University named after H. Dosmukhamedova will continue to implement initiatives aimed at developing a circular economy, rational use of resources and the formation of environmentally responsible behavior among students and staff.

Among the priority areas of development:

- expansion of the system of separate waste collection and recycling of secondary resources at the university;
- development of cooperation with environmental organizations and waste recycling enterprises;
- support for student startups and innovative projects in the field of environmental technologies;
- implementation of the principles of circular economy in the educational process and scientific research;
- Expansion of environmental education and programs for the formation of a sustainable lifestyle;
- development of research in the field of waste recycling, resource conservation and environmentally sound production;
- Increasing students' environmental responsibility through participation in practical environmental initiatives.

The implementation of these areas will allow the university to strengthen its contribution to the development of sustainable production and consumption patterns and the achievement of the UN Sustainable Development Goal No. 12 "Responsible consumption and production".

