



Sustainable Development Goals

Individual Report on SDG 13 - CLIMATE ACTION



Aktau 2023

SUSTAINABLE DEVELOPMENT GOALS

INDIVIDUAL REPORT

13.2 Low carbon energy use

13.2.1 - Does your university as a body measure the amount of low carbon energy used across the university?

Yes. One of the principles of the university's work is the principle of efficiency and economy in the use of budget funds. For this purpose, energy-saving technologies are used as a part of increasing the energy efficiency of the institution, which allows to significantly reduce the costs of utility payments, as well as to effectively manage the property complex, one of the main costs of educational activities.

The use of energy-saving technologies within the framework of increasing energy efficiency allows to significantly reduce one of the main expenses of the state education service - utility payments, as well as to effectively manage the property complex.

At the university, the main potential for saving electricity was identified when switching from conventional incandescent and fluorescent lamps to LEDs with efficient discharge lamps.

Also, automated systems of control and accounting of electric energy (ASCUE) have been introduced at the university.

ASCUE is the main tool for obtaining reliable and legal data on electricity metering both for the settlement period for mutual settlements in the wholesale and balancing market of electricity, as well as during the generation of its hourly data during production and consumption.

The university has installed 13 automated systems of control and accounting of electricity.

Between 2017 and 2023, the university was 100% upgraded to LED lights.

Appliance	total	Amount of energy saved in kW
LED lights	7500	270000
Fans	39	500

University access control system. The university has implemented a comprehensive security system consisting of video surveillance and access control and management systems (DBMS) based on PERCO technology. The access control system meets advanced security requirements and is designed to protect against unauthorized persons entering the territory, restricting access of employees and students inside the university and dormitories, and authorization in various service information applications. The system is organized on the basis of Mifare electronic permits with internal memory (in the form of plastic smart cards). Each structural unit has a level of access to a specific area. Entrance to the academic buildings and dormitories of the university is carried out on the basis of an electronic access system. All information about the use of passes is sent to the server to the Central Dispatch Service, where it is analyzed and processed in accordance with emerging tasks:

- display of statistical information in real time on the website;
- accurate identification of the person noticed in the offense using video surveillance;
- control over internal order in dormitories;
- provision of statistical information to other services to improve their work;
- authorization of users in the library information system using electronic passes.

The main buildings were provided with optical fiber for quality network connection.

There are 3 ways to connect to the Internet at the university:

- cable internet 200mb/s
- YU STAFF 150 Mbps
- YU STUDENT 150 Mbps

In 2019, the network of JSC "Kazakhtelecom" was abandoned and replaced by the network of Kaztekhnosvyaz and Kcell companies.

As a result, economic growth increased by 3.8 times per year.

Electricity Usage per Year (in Kilowatt hour)

13.2.2.1 - Total energy used

Total energy used- 80085,73 m3

13.2.2.2 - Total energy used from low-carbon sources

Description:

No	Name of expenses	unit of measure	total volume 2020	total volume 2021	Relative cost savings
1	Electricity used by the university	m3	1243,8	800,56	443,24
2	Drinking water	m3	46019	33673	12346
3	Heat supply	m3	3579	1374	2205
4	Wastewater discharge	m3	50043	39576	10467
5	Gas	m3	469,78	366,17	103.61
6	Technical water	m3	3372	4296	+924
	Total		104726.58	80085.73	24640.85

CO₂ (bus) = 270 metric tons

CO₂ (cars)= 960 metric tons

CO₂ (motorcycle)= 960 metric tons

CO₂ (total)

= 1,371.96 + 270 + 960 + 960

= 3,561.96 metric tons

Carbon footprint in 2022 = 3,561.96 metric tons

Total Carbon Footprint of Yessenov University

13.3 Environmental education measures

13.3.1 - Does your university as a body provide local education programmes or campaigns on climate change risks, impacts, mitigation, adaptation, impact reduction and early warning?

Yes.

1. General university CLEANLINESS

On March 4, 2023, a sabbatical was held at Yesenov University.

Heads and employees of structural units of the University, teachers of all faculties took part in Saturday.

Vice-president for student affairs and public relations Makhanbet Yerzhan Taybagharuly in his preface wished success to the Saturday work and invited the participants to take part in landscaping and beautification of the territories near the educational buildings.

Saturday's beautification work began with the symbolic planting of trees in front of the educational building. The first trees were planted by the vice president and faculty deans. Then the participants of the sabbatical worked near the University buildings in their assigned areas.

2. 3rd year students of the OP "Physics" Abatov E. and Armanuly M., in the competition of student scientific works "Inventors and their inventions" presented their work "A new source of energy - a piezoelectric element" (scientific supervisor Kasaeva A.Zh.) and, according to the results of the competition, took 2nd place (cash prize in the amount of 30 thousand tenge); The competition, which includes the areas of education, energy sources, new technologies in the field of mechanical engineering, environmental and economic issues, gave our students many positive emotions.



1. A smart bench that replaces solar energy with electricity



2. renewable energy



3. renewable energy (Yessenov University)

13.3.2 - Does your university as a body have a university Climate Action plan, shared with local government and/or local community groups?

Yes. Scientists are engaged in research at the university. Research projects are being developed on climate changes in Mangistau region, the issue of the Caspian Sea drawdown, and drinking water in Mangistau region. Participates in various funding projects by presenting these projects to state and local authorities. At the same time, a proposal will be made by the university management for the approval of the plan for the region by the state body.

13.3.3 - Does your university as a body participate in co-operative planning for climate change disasters, that may include the displacement of people both within a country and across borders, working with government?

no

13.3.4 - Does your university as a body inform and support local or regional government in local climate change disaster/risk early warning and monitoring?

Yes. Scientists are engaged in research at the university. Research projects are being developed on climate changes in Mangistau region, the issue of the Caspian Sea drawdown, and drinking water in Mangistau region. Participates in various funding projects by presenting these projects to state and local authorities. At the same time, a proposal will be made by the university management for the approval of the plan for the region by the state body.

13.3.5 - Does your university as a body collaborate with NGOs on climate adaptation?

Yes. Yessenov University cooperates with the non-governmental organization Eco Mangistau in the framework of scientific projects on ecology and climate change. Eco Mangistau also conducts startup projects and exchanges of experience for students.

<https://ecomangystau.kz/eko-obrazovanie>

13.4 Commitment to carbon neutral university

13.4.1 - Does your university as a body have a target date by which it will become carbon neutral according to the Greenhouse Gas Protocols?

No.

13.4.2 - Achieve by

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Newsletter 1:

Members of the student club "Young ecologist" at the Department of Ecology and chemical engineering and students of the Specialty of Chemical Technology of

organic substances and senior teachers G. T. Mustapaeva, a.m. Aytimova, A. N. Boranbayeva, U. K. Yensegenova, took part in the Environmental Action "autumn cleaning" organized by the NGO ``Ecomangistau``. The Subbotnik, held within the framework of the project "Green Leadership 2.0", was held in the Samal Tau Gorge, a picturesque area of Mangystau region.

The Subbotnik was very interesting, fun, with the active participation of students. The participants returned from nature with the feeling that it is our duty to protect and protect them, and not only to instill energy, inspiration and love for their feelings. After all, nature is our home, so we need not only to take care of it, but also to keep it clean with care, without abuse!



The link: <https://yu.edu.kz/zhas-ekolog-studenttik-klubyi-senbilikte/>