

Report of Affordable and Clean Energy

The climate of our planet has been constantly changing throughout the Earth's geological history, and these changes have been accompanied by significant fluctuations in the average global temperature.

However, warming is happening faster now than at any time in the past. It is clear that human activity has become the main cause of warming in the last century - heat-trapping gases called greenhouse gases are released into the earth's atmosphere, creating the energy needed for our modern life. We do this by burning fossil fuels, coal, gas and oil, farming, land use and other activities that contribute to climate change. The concentration of greenhouse gases has now reached its highest level. This rapid growth is a problem because the climate is changing too quickly for living organisms to adapt.

Energy efficiency measures should be increased to reduce greenhouse gases. Repairs and new buildings at the university and, as a rule, in our country are carried out in accordance with the Construction norms and rules (СН и П - Строительные нормы и правила). After our country gained independence, these Construction norms and rules were applied to energy efficiency, safety, etc. Appropriate additions and corrections have been made according to the specifications.

For example, in administrative and residential buildings, instead of СНиП II-92-76, the board meeting of the State Construction and Architecture Committee on 28.04. СНиП 2.09.04-87* is used, taking into account the changes approved by decision No. 04 of 2004.

All buildings of the university have been renovated according to modern efficiency norms (windows have been updated, double glazing has been provided, etc.). Our university as a body has plans to upgrade existing buildings to a higher level of energy efficiency. For this purpose, scientific studies on energy efficiency were conducted by the scientists of the university, as well as studies were carried out in master's theses in the 2021-2022 and 2022-2023 academic years to determine more detailed efficiency measures.

The energy of the gas-fired boiler room is used for heating our university. Currently, the use of heat pumps in the implementation of the university's heat supply, and the use of green energy technologies in the energy supply of heat pumps are being investigated. Thus, with the application of heat pumps, carbon dioxide emissions will be significantly reduced. At AzTU, wind installations were put into use in the courtyard of the university for continuous improvement of knowledge and skills in teaching green energy technologies, training of highly qualified personnel in the field of energy. These devices will also provide the laboratory with electricity.

Examining the application of green energy technologies in the total energy consumption of AzTU, taking energy efficiency measures during the renovation of university buildings are part of the energy efficiency plan. The energy analysis of the individual buildings of the university showed that the most energy consumption was in heating and similarly energy losses were determined in this area.

One of the main priorities of the university is to expand the use of green energy and to abandon the carbon-intensive energy industry. In general, coal and oil-intensive energy industry is not used in the field of electricity and heat energy in our country.

The average electricity consumption of the university is 4700GJ, and the used area is 67000m².

Periodic visits to the regions are made. During a visit to the AzTU Recreation Center, the possibilities of using geothermal energy were investigated. During the visit to the gold deposits of Azergold OJSC, a meeting was held, the possibilities of using renewable energy (from small rivers in Dashkasan region, solar energy) were investigated.

An energy audit was conducted at the Bakutaxi company in Baku, and a plan of measures aimed at improving energy efficiency and clean energy was prepared. "Energy efficiency and green energy technologies" department operates in our university. At the master's degree, staff is trained for the specialization "Renewable energy sources". The mentioned is part of the state policy of our government. Our University faculty and students regularly participate in competitions with startups that develop and support low carbon economy/technology. As the head of the "Green Energy" team at the Technofest held in our country together with the department's employees and graduate students, he spoke on the topic "Effective application of using asynchronous motors as generators in small hydropower plants" and was selected among the first 10 projects and was awarded a certificate.

8000 kWh of clean energy was produced through 4 kW wind turbines and 2 kW solar panels installed in the university.

After the great Victory in the 44-day Patriotic War, under the sole supervision of the President of the Republic of Azerbaijan Mr. Ilham Aliyev, construction, restoration and improvement works were started in Karabakh. Mr. President Ilham Aliyev declared the territories freed from occupation as "green zone" territory, and declared that the cities and villages to be built here will be realized under the name of "smart". What we have mentioned are the measures implemented and will be implemented by the government of Azerbaijan at the national activity level.