

## **Implementation of the water treatment program at the Ilyas Zhansugurov Zhetysu University**

Recycling and reuse of water is an important step towards sustainable water resources management at the university. This program is aimed at reducing the consumption of fresh water and minimizing water waste, which will help not only reduce costs, but also reduce the negative impact on the environment.

### **Program objectives**

1. Reducing freshwater consumption: Optimizing resource use through the introduction of recycling technologies.
2. Sustainable water waste management: Improving the efficiency of wastewater treatment and reuse.
3. Education and awareness: Informing students and staff about the importance of water recycling and resource management.

### **Main activities of the program**

#### **1. Analysis of the current state of water use**

Definition: Assessment of current water supply and sanitation systems to identify opportunities for water recycling.

##### **Actions:**

- Conducting an audit of water supply and wastewater systems.
- Collecting data on the volume of water consumed and discharged.

#### **2. Implementation of wastewater treatment systems**

Definition: Installation of wastewater treatment and recycling systems to make them recyclable. Actions:

- Design and installation of installations for biological or mechanical wastewater treatment.
- Development of technologies that allow purified water to be used for irrigation, technical needs or in cooling systems.

#### **3. Rainwater harvesting**

Definition: Creation of a rainwater collection system that can be used for non-drinking purposes.

##### **Actions:**

- Installation of rainwater collection tanks from building roofs.
- Creation of a filtration and storage system for the use of rainwater.

#### **4. Education and awareness**

Definition: A training program for students and staff on water treatment and methods of its effective use.

##### **Actions:**

- Conducting seminars and lectures on water conservation and water recycling.
- Dissemination of information materials about the benefits of water recycling.

#### **5. Performance monitoring and evaluation**

Definition: Regular monitoring of water treatment systems to assess their effectiveness and identify opportunities for improvement.

**Actions:**

- Keeping records of the volumes of recycled and reused water.
- Conducting regular inspections and analyzing the results.

**6. Interaction with external organizations**

Definition: Establishing partnerships with scientific and commercial organizations to obtain advice and technical support.

**Actions:**

- Search for partners for joint water treatment projects.
- Participation in conferences and seminars on water conservation and sustainable resource management. The implementation of the water treatment program at Zhetysuk University will significantly reduce the consumption of fresh water and optimize the use of water resources. The introduction of modern purification and recycling technologies, as well as the training of students and staff, will contribute to the formation of a culture of rational use of water. The program will be regularly reviewed and adapted to new conditions and technologies, which will ensure its effectiveness and relevance.

**Director of the department  
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