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Implementation of New Technologies in the Water Supply and Wastewater Discharge System

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Abstract. In the article, the water supply system, water intake facilities within the complex of its facilities, water preparation and delivery to consumers are considered important. The efficiency of the system is ensured by increasing the efficiency of water intake facilities, and this requires modern technologies. Sewage networks are used independently. Therefore, the pipes are laid with a certain slope. In order to be convenient from the economic point of view, the preferred form of sewage networks should be chosen.
Key words: water, underground water, wastewater.

Water supply and sewage systems are the basic infrastructures of any society. As a result of population growth, industrial development and climate change, the demand for water resources is increasing. At the same time, wastewater treatment and proper disposal systems can cause serious environmental problems. This article analyzes the new technologies introduced in the water supply and sewage systems, their effectiveness and importance in public life. Water Supply: Problems and New Technologies. Today, water supply systems mainly include the following problems:

1. Water quality: Pollution of water resources, industrial waste and agricultural pesticides entering water sources. This makes water purification processes more complicated.
2. Water scarcity: Depletion of water resources due to population growth and climate change.
3. Energy consumption: Water supply systems consume a lot of energy, which is economically disadvantageous.

New technologies are helping to solve these problems. For example: Ozonation and UV purification technologies. Ozonation technology works effectively in water disinfection. Through this method, all pathogenic microorganisms and harmful substances in the water are destroyed. And with UV light, water can be quickly disinfected, reducing energy consumption and providing safer water. Reverse osmosis (RO) systems Reverse osmosis technology is used to purify water from solids. By this method, sea water or polluted water can be made into potable water. This technology is successfully used in many countries, especially in regions suffering from drought. Biosurfactants and natural filters

Water purification technologies using plants and microorganisms, such as phytoremediation and biofiltration, are an environmentally friendly and inexpensive method. These methods effectively combat toxins and harmful substances in water through natural processes. Wastewater Systems: Environmental ResponsibilityWastewater systems are important for the proper recycling of water resources and environmental protection. New technologies introduced in wastewater treatment today help to reduce ecological risk and protect the environment. Biological treatment technologies. Biological treatment methods ensure biological decomposition of organic substances in wastewater. In this method, water is purified with the help of special bacteria and microorganisms. This technology makes it possible to cheaply and efficiently clean industrial and household wastewater. Membrane filtration and electrochemical technologies. Membrane filtration technologies provide highly efficient wastewater treatment. Through this method, wastewater can be properly discharged and not harm the environment. Electrochemical methods allow efficient use of energy in the process of wastewater treatment. Energy production (Biogas) Biogas production technologies from wastewater are especially important in developing countries. Methane gas released during wastewater treatment can be collected and used as an energy source. This technology creates an environmentally sound way to produce energy without polluting the environment. The Importance of Technology Updates The introduction of new technologies in water supply and wastewater treatment systems is not limited to solving

environmental problems. Their social and economic benefits are also great: Efficient use of resources: Contribute to the sustainable development of the economy through the efficient use of water and energy resources.

• Improving health: Implementation of water treatment technologies creates safe drinking water for people and a clean environment.

• Creation of jobs: The introduction of new technologies allows to create new jobs and attract highly qualified specialists.

Summary

The introduction of new technologies in water supply and sewage systems is important not only for ensuring environmental safety, but also for economic and social development. These technologies greatly help in efficient use of resources, reducing energy consumption and protecting the environment. A more sustainable and cleaner environment can be created in the future through widespread adoption of innovations in water supply and wastewater treatment.

List of references

1.Turdiqulov, B., Nazirov, S., & Karimov, Y. (2022). Atom va molekulalarning yorug'likni yutishi va nurlanishi. *Евразийский журнал академических исследований*, *2*(13), 1252-1258.

2.Sultonov, A., & Turdiqulov, B. (2022). Suv qabul qilish inshootlarining ishlash samaradorligini oshirishda filtrlarning o 'rni. *Евразийский журнал академических исследований*, *2*(11), 12-19.

3.O'G'Li, S. O. R., Karimov, Y. N., & Turdiqulov, B. B. O. G. L. (2022). Aholini ichimlik suvi bilan ta'minlash muammolari. *Science and Education*, *3*(12), 369-375.

4.Turdiqulov, B. (2023). Improvement of the Operation Process of Gas Burners. *Vital Annex: International Journal of Novel Research in Advanced Sciences*, *2*(3), 1-5.

5.Turdiqulov, B., & Egamberdiyeva, X. (2023). TOG'-QAZISH SNOAATIDA YER USTI SUVLARINI TOZALASH MUAMMOLARINING HOZIRGI HOLATI. *Евразийский журнал академических исследований*, *3*(3 Part 2), 119-127.

6.Turdiqulov, B., & Razoqov, S. (2024). BINOLARNI ISITISH TIZIMLARIDA ICHKI HAVO SIFATI. *Interpretation and researches*.

7.Behzod Turdiqulov S. M. Boboev, A. I. Ismoilov 2023 Me'morchilik va qurulish muammolari (2) 236-238

8.Бобоев С. М., Тоштемиров М. Э., Исмоилов А. И. АККУМУЛЯТОРЫ ТЕПЛОТЫ ФАЗОВОГО ПЕРЕХОДА В СИСТЕМАХ ВЕНТИЛЯЦИИ И КОНДИЦИОНИРОВАНИЯ ВОЗДУХА //Vestnik Volgogradskogo Gosudarstvennogo Arhitekturno-Stroitelnogo Universiteta. Seriya: Stroitelstvo i Arhitektura. – 2022. – №. 88.

9.Бобоев С. М., Тоштемиров М. Э., Исмоилов А. И. Самаркандский государственный архитектурно-строительный институт //Vestnik Volgogradskogo Gosudarstvennogo Arhitekturno-Stroitelnogo Universiteta. Seriya: Stroitelstvo i Arhitektura. – 2022. – №. 88.