

Podoliak S.I. The Problems of air and water pollution in Zaporizhzhia region. Scientific supervisor: Zhukova T.V. Матеріали 18-й міжнародній науково-практичній студентській конференції «Євромови-2020». Дніпро. 2020. С. 213 [https://pereklad.nmu.org.ua/ua/EUROLANLUAGES\\_2020.pdf](https://pereklad.nmu.org.ua/ua/EUROLANLUAGES_2020.pdf)

**Podoliak S. I.**  
**Dmytro Motornyi Tavria State Agrotechnological University**  
**Scientific supervisor: Zhukova T.V.**

## **THE PROBLEMS OF AIR AND WATER POLLUTION IN ZAPORIZHZHIA REGION**

Ukraine is an industrial and agricultural country, which nowadays has numerous problems. The environmental problem is the most crucial one. Ukraine contains some of the most polluted landscapes in Eastern Europe. Pollution has been obvious in Ukraine with industrial development since the beginning of the 19<sup>th</sup> century. Pollution is the contamination of the environment, including air, water, and land, with adverse amounts of materials or energy. Generally, human activities and waste products they create cause such contamination.

Air pollution is particularly dangerous in heavily industrialized cities and towns of southeastern Ukraine, especially in Kharkiv, Luhansk, Donetsk, Dnipro and Zaporizhzhia. Plants and factories using coals cause uncontrolled emissions of sulphur dioxide, dust and other harmful substances.

Zaporizhzhia region is one of the busiest regions of Ukraine in terms of the industrial potential, due to the presence and high concentration of enterprises of ferrous and nonferrous metallurgy, thermal power, nuclear energy, chemistry, and mechanical engineering.

Due to the developed industrial infrastructure, the region has a high investment potential that can be used to improve the air condition. On the other hand, the inevitable consequence of the industrial development of the region is a tendency to increase emissions of pollutants into the atmosphere.

The statistics of air pollution in Zaporizhzhia region is not optimistic and even frightening. Every year, 350 tons of pollutants are released into the atmosphere of our region, including 230 tons from stationary sources and 120 tons from the transport sector. In total, 631 tons of harmful particles are emitted into the air of Zaporizhzhia region every day. These emissions are increasing at a rate of 2-2.5% per year.

The situation with air pollution in Melitopol can be considered almost life-threatening. According to the results of lichen-indicative assessment of air technogenic pollution, it can be characterized as critical. The most polluted areas are located in the areas of highways, as well as near some enterprises of the city. Relatively favourable areas of Melitopol in terms of the air quality are connected with the territories of city parks.

Water pollution is also quite severe in Zaporizhzhia region. There are 1,400 major water consumers in the region, who use 1,100.0 million m<sup>3</sup> of water every year. The main source of water for the needs of the economy and drinking water is the Dnieper River. The number of water consumers who returned used water to

numerous discharge points is regularly increasing as industries and businesses install modern water treatment equipment and use available sewerage systems in cities and towns. In total, 400 million m<sup>3</sup> of water is returned to the natural environment every year.

The most polluted effluents are those of ferrous and non-ferrous metallurgy enterprises, as well as sewage effluents from communal housing estates. The main components of water pollution are: waste materials, chlorides, sulfur, phosphates, ammonium salts, nitrates, petroleum products, zinc, nickel and more.

Anthropological influence on the hydrology of the Dnieper has led to a decrease in phytoplankton diversity. In the warm season, the reproduction of blue-green algae makes it impossible to use drinking water. Existing methods of water treatment do not allow making such water suitable for drinking.

The construction of dams on the Dnieper and the creation of the Dnieper and Kakhovka reservoirs create stagnant conditions that accelerate the biodegradation of water quality. There is no further deterioration of water quality in small rivers, but the general ecological condition remains unsatisfactory.

The main polluters of water bodies of the region are Zaporizhzhia "Vodokanal" and other objects of housing and communal services, as well as enterprises of the metallurgical complex. The Zaporizhzhia sewage system collects waste water and sanitary effluents and discharges them untreated into the Dnieper River.

Almost all aquifers used for water supply are protected by natural barriers and are located at a depth of 100 meters. There are also risks of pollution due to intensive agricultural activities. Leachates from former military bases are also a serious threat to groundwater.

In Melitopol and Melitopol district the quality of water is very poor. Inhabitants are forced to use drinking water that does not meet hygienic standards for sanitary and chemical parameters due to its natural composition in terms of a number of trace elements (sulfates, chlorides, sulfur, dry residues).

As it can be seen from the facts above, the strategic goals in the field of air and water protection in Zaporizhzhia region are to reduce air emissions, decrease water pollution and improve the drinking water quality.