

NUCLEAR ENERGY

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ABSTRACT

Nuclear energy is a branch of energy that uses nuclear energy to obtain electrical and thermal energy, and is a branch of science and technology that deals with the theoretical development of methods and means of converting nuclear energy into electrical and thermal energy and their practical application.

Keywords: nuclear energy, nuclear power, advantages of nuclear power, development of our country.

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Nuclear power plant (NPP) is the technical basis of nuclear energy. The source of energy is an atomic reactor, a nuclear reactor. Fission nuclear reactions and Nuclear reactions, as a result of the splitting of uranium and plutonium nuclei, thermal energy is released, and then this energy is converted into electrical energy, just like in ordinary thermal power plants. The use of nuclear fuel is currently the most reliable way to provide energy to mankind in the event that reserves of coal, gas, oil, peat, and organic fuels are depleted. Therefore, in most developed countries, in the USA, Great Britain, France, Canada, Japan, Germany, Sweden, Russia, India, Pakistan, etc., it is necessary to adopt high-efficiency methods of using thermal and hydropower sources, including, first of all, nuclear energy. works are being carried out rapidly. In Uzbekistan, scientific research on nuclear energy is carried out by the Institute of Nuclear Physics of the FA of Uzbekistan.



Nuclear energy produces electricity that can be used to power homes, schools, businesses, and hospitals. The first nuclear reactor to produce electricity was located near Arco, Idaho. The Experimental Breeder Reactor began powering itself in 1951. The first nuclear power plant designed to provide energy to a community was established in Obninsk, Russia, in 1954. Building nuclear reactors requires a high level of technology, and only the countries that have signed the Nuclear Non-Proliferation Treaty can get the uranium or plutonium that is required. For these reasons, most nuclear power plants are located in the developed world. Nuclear power plants produce renewable, clean energy. They do not pollute the air or release greenhouse gases. They can be built in urban or rural areas, and do not radically alter the environment around them. The steam powering the turbines and generators is ultimately recycled. It is cooled down in a separate structure called a cooling tower. The steam turns back into water and can be used again to produce more electricity. Excess steam is simply recycled into the atmosphere, where it does little harm as clean water vapor. However, the byproduct of nuclear energy is radioactive material. Radioactive material is a collection of unstable atomic nuclei. These nuclei lose their energy and can affect many materials around them, including organisms and the environment. Radioactive material can be extremely toxic, causing burns and increasing the risk for cancers, blood diseases, and bone decay.



Summary

The use of nuclear energy has many advantages and disadvantages. Nuclear energy should be used for the right purpose. After all, electricity is a daily necessity. According to the International Atomic Energy Agency, by 2050, the demand for electricity will triple. An investment of 350 trillion dollars is needed to create the necessary infrastructure. The contribution of nuclear energy can be learned from the lessons of Fukushima.

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