NON-TRADITIONAL AND RENEWABLE ENERGY SOURCES

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In general, non-traditional and renewable energy sources are defined as sources of electrical and thermal energy that use the energy resources of rivers, reservoirs and industrial drains, wind energy, solar energy, biomass, sewage, solid household waste, etc. The main sources of renewable energy: solar radiation; the gravitational interaction of the Sun, the Moon, and the Earth; thermal energy of the Earth's core, as well as chemical reactions and radioactive decay in its bowels, which are manifested, in particular, in the form of geothermal energy from hot water sources - geysers. The surrounding space is constantly permeated with energy flows from various sources. Solar energy has been the driving force behind oil, gas and solid fuel deposits for millions of years. One of the main areas of non-traditional energy is the use of solar energy by direct and indirect methods. Direct methods of using solar energy are based on the transformation of the radiant energy of the Sun into electrical and thermal energy, indirect methods allow the use of kinetic and potential energy arising from solar radiation from the biosphere. This is the energy of wind, biomass, oceans and seas, hydropower. Wind is the movement of air masses in the earth's atmosphere, caused by a temperature difference in the atmosphere due to uneven heating by the sun. The use of wind energy is the conversion of solar energy into mechanical energy. Devices that, in turn, convert wind energy into any other are called wind power plants. Wind turbines with capacity from several kilowatts to megawatts are produced in Europe, the USA and other parts of the world. Most of them are used for electricity production both as part of the power system and autonomously. Hydropower is the most developed branch of energy based on renewable resources. It is important to note that the renewable energy of hydropower resources is also provided by the energy of the Sun. Indeed, rivers are streams of water that move under the influence of gravity from higher places on the Earth's surface to lower places and eventually flow into the World Ocean. Under the influence of solar radiation, water evaporates from the surface of the World Ocean, its steam rises into the upper layers of the atmosphere, condenses in the clouds and falls as rain, replenishing the springs of the river, that are exhausted.