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ANALYSIS OF THE DYNAMICS OF HARMFUL RELEASE TO THE ENVIRONMENT IN TERMS OF TIME

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An analysis of global energy development shows that in the coming decades should not expect a significant decrease in the proportion of traditional energy resources in the structure of world energy consumption.

Significant adverse environmental effects caused by the release into the atmosphere of aerosols containing solid particles.

The purpose of research - to establish regularities of the dynamics of harmful emissions into the environment in time of technical devices; as solar radiation, ambient temperature, oceans, biotic factors.

Materials and methods of research. The negative impact of many components vybrasyvae¬myh impurities can magnified in their joint impact on the world around us. This property have a synergistic copper, cadmium, mercury, and, I suppose, and other heavy metals. In the body the person they are interacting with sulfhydryl groups of proteins, blocking their important function biologi¬cheskie. The residence time of the components of impurities in the air before deposition on the ground varies widely. Thus, the mercury is in an atmosphere of 7 days and 1.5 ... 2 years, lead - 7 ... 20 days, arsenic - an average of 9 days, cadmium - about 25 ... 30 hours.

Stand out pollutants such environment, the natural radioactive elements which are present in coal as an impurity and released into the atmosphere flue gases. Radiation effects on the environment have thermal power plants that use coal with a high content of radionuclides. The big danger have radiation emissions of nuclear power plants (under condition of their emergency operation).

Studies indicate the ever-increasing environmental pollution, especially in the XX and XXI centuries, starting when he began to manifest itself much "greenhouse effect." Therefore, it is concluded that the increasing "greenhouse effect" can lead to irreversible global results.

Equally important is the problem of environmental safety and environmental-economic factors.

The results of research. The rate of increase of surface temperature is expressed as a superposition of a linear trend and developed on the background of a quasi-periodic (sinusoidal) vibrations. According to current data of climatology, linear trend in global temperatures is mainly anthropogenic origin. This is the result of anthropogenic amplification atmospheric "greenhouse effect" due to the rapid increase in atmospheric water vapor, carbon dioxide, methane, nitrous oxide, etc. The nature of a quasi-periodic fluctuations in global temperature is still unknown.

As a result of statistical processing of empirical series of monthly global temperature anomalies, published by the International Panel on Climate Change, ustanov¬leno that the temperature increase was about 0,6 ± 0,1 ° C / 100 years during 1900-2000., But ground-level the temperature increased at a faster pace to 0,15 ± 0,02 ° C / 10 years, the last 50 years.

An important indicator of the intensity of solar radiation is the solar constant, a change that occurs as a result of fluctuations of the solar radius with an amplitude of up to 250 km in the 11-year cycle, and up to 700 ... 800 km in two centuries of the cycle.

Research has established the existence of the solar cycle, during which the activity of the Sun, the luminosity and the diameter of sync range. Strictly speaking, the sun is not in the steady state energy balance.

Modern methods of measurement samples of ice from Greenland and Antarctica wells installed carbon dioxide, oxygen, and other components of the relic of the atmosphere, as well as determined the temperature at which the snow fell. It was concluded that a significant increase in the concentration of carbon dioxide and global warming have occurred cyclically in times when there is no industrial impact on the environment occurred. It was also found that the periodic substantial increase in the concentration of carbon dioxide in the atmosphere over 420 thousand. Years has always followed the increase in the average temperature, there were its consequence. In this connection, it should not expect a catastrophic ice melting and the gradual increase of ice at the poles of the Earth folder. Note that the area of ice cover in the Arctic in

September 2008 (4.52 million. Km2) became 390 thousand. Km2 more than the previous year (4.13 million. Km2). The concentration of carbon dioxide in the atmosphere in the glacial periods of Earth's history has always been about two times lower than now.

Studies have shown that carbon dioxide (CO2) and water vapor (H2O) is absorbed about 63% of the thermal radiation from the Earth's surface. Of these, approximately 51% comes from the water vapor and about 12% - to carbon dioxide. Thus, water vapor absorbs half of the radiated heat and carbon dioxide - is less than half that absorbs water vapor.

This is because in the wavelength range 4.7 ... 12.8 m carbon dioxide hardly absorbs infrared radiation. Atmosphere luminosity range is within the wavelength 9 ... 12 mm, and a maximum heat radiation from the earth - about 10 microns.

A significant influence on the Earth's climate has an ocean, which serves as a repository of carbon dioxide. The solubility of gas in water decreases with increasing temperature and so the warm ocean increases CO2 emissions.

In recent years, in the light of ice cores from Antarctica and Greenland were obtained data on the ancient Earth's climate, including changes in the atmospheric concentration of greenhouse gases. The ice cores extracted in the 1990s. at the station "Vostok" from the Antarctic shell three-kilometer depth, preserved prehistoric air bubbles. As it was possible to determine the composition of the atmosphere at the time when the ice began to form only. The analysis results confirmed that protyazhe¬nii last 400 th. S CO2 and methane in the atmosphere falling and rising at a certain law. For example, fluctuations in the concentration of CO2 and methane coincide with the orbital cycle duration of 22 thousand. Years, which is called precession.

With the concentration of carbon dioxide in the past few thousand years and there have been changes. Although fluctuations in CO2 content in the atmosphere caused by a complex combination of all three orbital cycles during previous interglacial periods tendencies were surprisingly similar.

Over the past 250 thousand. Years the concentration of methane in the atmosphere to fall and increased in accordance with a change in light intensity in the

Northern Hemisphere, due to precession. At the highest temperatures significantly increased the amount of methane produced in the swamps, its main natural sources.

On the basis of data obtained from the analysis of ice cores we have concluded that for nearly two thousand years, there have been periods reduce the atmospheric concentration of carbon dioxide, which occurred about those periods. You can see that not only man-made factors, but also the activities of people and life events have a considerable impact on the environment around us.

Among the works devoted to the problem of maintaining ustoychi¬vosti all life on Earth, highlight the works of biophysics VG Gorshkov. Formulated his theory, called the biotic regulation (1990), central place is given to cycling of matter and energy at the level of individual biotic communities and, above all, biogeocenosis - these elementary components of the biosphere.

It is important to note that the theory of biotic regulation can serve as a basis for selection of the sustainable development strategy of the environment. Therefore, one of the main means of combating environmental pollution is the problem of preservation and restoration of natural ecosystems destroyed by man.

Thus, we can conclude that the pattern of change of climate on the earth's surface is defined by complex interrelated factors: technological emission okruzhayu¬schuyu medium not only carbon dioxide but also other harmful compounds; cyclical changes and, above all, dolgosroch¬nyh: solar radiation; the impact of the world's oceans; biotic regulation.

Requires a comprehensive and thorough analysis of these factors with their accurate assessment taking into account the environmental, energy, biotic and economic indicators.

Conclusions

Intensive development of devices for different purposes and, in particular, lead to ever-increasing energy pollution man-made emissions. This is evidenced by the analysis carried out over a long period. Among the man-made emissions should be allocated aerosols and radioactive components. The positive influence of the atmosphere interchange with oceans and seas, as well as abiotic structures.