
PROBLEMS OF INTERACTION OF ENERGY AND ECOLOGY

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Annotation

In the article types of non-traditional renewable energy sources and the main factors of their environmental impact on the natural environment and objects, information on the characteristics of electricity generation at the expense of renewable energy sources.

Keywords. Hydropower resources, non-conventional energy sources, hydraulic fuel, ecological environment, solar power plants.

Currently, regional and local administrations are increasingly interested in non-traditional energy.

The use of new forms of renewable energy, especially solar energy, has gained significant scale and the steady growth rate is accelerating.

Of course, nowadays it is difficult to supply buildings with thermal energy without using natural resources. First of all, non-renewable energy carriers can reduce consumption by 1/5, reduce the expected environmental damage, and most importantly, help the home owner to reduce the cost of their home.

Many problems will be solved when the energy estimation of buildings is completely or partially replaced by renewable energy resources. Residential buildings should be equipped with environmental systems for heating (or cooling), hot water supply. Consider the environmental problems of using non-conventional and renewable energy sources. Energy occupies one of the leading positions in the complex of existing environmental problems. The application of renewable energy sources in practical applications forces them to pay attention to the study of their impact on the ecology of the environment.

There are opinions that electricity is a completely ecologically "clean" option at the expense of a renewable source of energy. This is not a very good idea, because traditional organic mineral and hydraulic fuel-based energy devices are in some cases less dangerous. Also, the ecological impact of renewable energy sources on the environment is still not clear, especially in terms of time, so the use of these sources of influence is less studied than the mechanical issues. Hydropower resources are a type of renewable energy sources. For a long time, it was also called an ecological " clean "

source of energy. Without taking into account the ecological consequences of such use, no measures were taken to protect nature and the environment, which led to a deep crisis of hydropower by the 90s. Taking this into account, it is necessary to study the environmental consequences of the use of new energy sources in advance.

Converting energy from non-conventional renewable sources into useful form of electricity or heat is relatively expensive at the level of modern knowledge and technology.

In all cases, their use serves to reduce the consumption of organic fuel and relatively less pollution of the environment. Until now, the technical and economic comparisons of traditional methods of extraction from renewable sources have not taken into account, or only mentioned, and not quantified. Thus, the solution of environmental problems caused by the use of new energy sources is becoming urgent. It is necessary to invent new ways of transferring energy from one type to another, which will allow less damage to the environment than using traditional equipment.

We consider the main factors of environmental impact of non-conventional renewable energy sources on various natural environments and objects.

Solar power plants are under-researched objects, and there is no full reason to include them among environmentally friendly power plants.

Solar power plants occupy a lot of space. The specific area occupation of QES varies from 0.001 to 0.006 ha/ kW. This area is small compared to hydroelectric power plants, but thermal power plants are larger than nuclear power plants. Solar power plants contain a large amount of metal, glass, concrete, etc. is spent, the data presented above do not take into account land extraction at the stage of extraction and processing of raw materials. If solar power plants are created, their area will increase and the level of groundwater pollution will also increase.

Solar concentrators cast a large shadow on land areas, which causes the soil and vegetation to change. In the area where the station is located, the air warms up when solar radiation occurs. This leads to changes in temperature, moisture balance, wind direction; in some cases the system may overheat and burn and the consequences may be bad. If low-boiling liquids are used for a long time in solar energy systems, there is a possibility of contamination of drinking water due to the leakage of these liquids. Especially the high oxide content Liquids containing nitrites and chromates are dangerous. Solar technology has an indirect impact on the environment. It will be necessary to build large concrete, glass and steel production complexes in the areas intended for its development.

The second principle way to obtain electricity using solar energy is direct photoelectric conversion.

It uses silicon, cadmium and arsenide photoelectric elements. during preparation, dust compounds with cadmium and arsenic harmful to human health are formed in the production rooms.

Space solar power plants affect the climate due to radiation, malfunctions for telecommunications and radio communications, damage to vulnerable living

organisms that fall under its influence. In this regard, it is necessary to use an environmentally friendly wave range to transmit energy to the ground.

Unconscious effects of solar energy on the environment can be reflected in:

- land degradation;
- in large material capacity;
- leakage of working fluids containing chlorate vanitrite;
- risk of overheating and burning of systems, damage of products with toxic substances when solar systems are used in agriculture;
- in the area where the station is located, the heat balance, humidity, wind direction changes;
- light in large areas is blocked by solar concentrators, as a result of which land fertility is lost;
- impact of space QES on climate;
- malfunctions in television and radio communications;
- when sending energy to the ground by means of microwave radiation is harmful for living organisms and humanity;

The ecological situation requires a new way of thinking from architects and builders. Modern energy, which is becoming a tradition, has a negative impact on the ecology of the environment, regardless of the type of energy carriers. In the field of energy supply of buildings and cities, it is necessary to adopt solutions that allow efficient use of newly generated resources. Mainly solar energy is used. Such methods allow to equip and install efficient means of providing energy to buildings - solar devices.

Among the developments, two directions should be defined and taken into account:

- production and use of limited power level solar energy devices designed to supply small autonomous consumers with energy;
- creation of solar energy stations with limited power in northern and desert regions.

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