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TRADITIONAL AND NON-TRADITIONAL SOURCES OF ENERGY

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ABSTRACT

The article focuses on the prospects for the use of traditional and non-traditional energy sources used for consumption in our country, the large-scale practical work in this area, including the introduction of renewable energy and its efficient use.

KEYWORDS: *Alternative Energy, Conventional Energy Sources, Solar Complex, Ecological System, Energy Saving Resource Devices.*

INTRODUCTION

At the current level of scientific and technological development, energy consumption can be offset by the use of fossil fuels (coal, oil, gas). The results of many studies show that by 2020, fossil fuels will only partially meet global energy demand. The rest of the energy demand will be met by unconventional and newly generated other energy sources. Other energy sources that are newly formed are energy flows that are constantly present or that occur periodically in the environment. The fact that the new energy is not the product of human activity is its difference.

New non-renewable energy sources are natural reserves of matter and materials that can be used by humans to produce energy. Examples of such power sources are nuclear fuel, coal, oil and gas. Unlike newly formed sources, new non-generated power sources are located in an interconnected state in nature and are isolated as a result of human intervention.

New sources include solar energy, wind energy, (rivers) hydropower, currents, waves, energy from the deeper layers of the earth. New non-renewable energy sources account for 90% of the country's heat balance, including 30% oil, 40% gas and 20% coal. All fossil fuels (oil, gas, coal, etc.) are the appearance of solar energy that has passed through various stages, re-formed and reached us millions of years later, and is in danger of running out and becoming more expensive.

According to UN General Assembly Resolution 333/148, unconventional and renewable energy sources include: solar, wind, geothermal, ocean waves, ocean and coastal energy biomass, wood, coal, peat, shale, bituminous sands, hydropower of large and small watercourses.

The potential capacity of non-conventional and newly generated power sources is estimated at 1 billion tons per year. t.u.t .:

- Solar energy 2300;

- Wind energy 26.7;

- Biomass energy 10;

- Ground temperature 40,000;

- Energy of small rivers 360;

- Marine and ocean energy 30;

- The energy of small potential secondary power sources is 30.

The objectives of the strategic objectives of the use of new energy sources and local fuels are:

- Reduction of consumption of new non-renewable fuels and energy resources;

- Reduction of environmental load from the fuel and energy complex;

- Forecasting of long-term and seasonal fuel supply areas and consumers;

- Reduction of long-distance fuel traffic;

- Solving the following problems - requires the development of new energy sources:

- Establishment of sustainable electricity and heat supply to the population and decentralized energy supply in the regions;

- guaranteeing the minimum energy supply of the population and production in the centralized energy supply zones, elimination of energy shortages, elimination of deficiencies resulting from accidents and power outages;

- Reduction of harmful emissions from energy equipment in settlements and cities with complex environmental conditions, as well as in public recreation areas.

Currently, the interest of regional and local administrations in non-conventional energy is growing.

The use of new energy sources, in particular solar energy, has gained significant momentum, and sustainable growth rates are accelerating.

Of course, today it is difficult to predict the thermal energy of buildings without the use of natural resources. First and foremost, new non-renewable energy carriers can help reduce consumption by 1/5, reduce the likelihood of expected environmental damage, and most importantly, help homeowners reduce their home costs.

Many problems will be solved when the energy estimation of buildings is replaced in whole or in part by newly generated energy resources. Residential buildings should be equipped with ecological systems for heating (or cooling), hot water supply. Of course, the cost of solar system

equipment and its study is extremely high today. But given the fact that sunlight is free, that is, the cost of non-generating energy carriers will rise sharply, in 2-3 years the equipment for solar processing will pay for itself and can be used until it is completely out of order.

Given the prospects of development in this area, it can be predicted that by 2030 there will be highly efficient solar systems, and their payback period will be 1 year. Equipment prices are still much lower than they were 10 years ago.

Such a result can be achieved when different construction methods using new generated energy sources are used in the construction of a new building or in the reconstruction of an existing building.

In the 60s and 70s, the first steps were taken in the CIS countries to use non-conventional energy sources. During this period, autonomous energy predictive phytoelectric devices emerged and proved themselves well in space. By the end of the 1980s, solar devices were launched to provide hot water to an area with a total area of 150,000 m2, while the production of solar collectors amounted to 80,000 m2 per year. As a result of economic difficulties in the 1990s, the development of non-conventional energy in our country was halted. But today the use of non-conventional forms of energy is becoming more widespread all over the world and in our country.

The environmental situation requires architects and builders to think anew. Modern energy is becoming more traditional today, depending on the energy carrier, and has a negative impact on the environment in the energy supply of buildings and cities in general.

It is known that solar energy is mainly used for low-power utility hot water supply and heating. Low-power heat production around the world will reach 5 * 106 Gcal in the near future. Phytoelectric devices have a global total capacity of 500 MW.

The International Renewable Energy Agency (IRENA) has been established, and today 164 countries around the world have adopted special documents aimed at developing this type of energy. The strategy of these countries sets a goal to increase the use of QTEM to 50% by 2030.

According to the International Energy Agency (IEA), solar and wind power generation has doubled in 2018 as demand for all types of fuels has increased. For example, energy from the sun alone has increased by 31 percent. However, about 33 gigatons of CO2 were released into the atmosphere last year.

According to experts, at the same time energy consumption has exceeded production. Therefore, it is time to put innovative methods into practice. Global demand for electricity is projected to increase by 5 percent by 2030 compared to the beginning of the century.

The main device of the Scientific-Production Association "Physics-Sun", located in Parkent district of Tashkent region, is a large solar box. It has a heat output of one thousand kilowatts.

Mineral resources such as coal, natural gas, oil and uranium are the basis of energy. However, these reserves are declining from year to year. The development of renewable and new energy sources will allow future generations to conserve natural resources and improve the environment.

The potential of renewable energy sources in Uzbekistan is 51 billion tons of oil equivalent. The technical capacity is 182.32 million tons of oil equivalent. This is three times the country's current annual primary energy reserves. Today, only 0.31% of this potential has been used.

The law "On the use of renewable energy sources", adopted by the Legislative Chamber on April 16, 2019, approved by the Senate on May 3 this year and signed by the President, came into force on May 22 this year.

This law serves to increase energy efficiency in the economy and social spheres, to ensure the country's energy security, as well as to expand the use of renewable energy sources and to regulate the relevant regulations in this area. In addition, this document is a solution to a wide range of issues, such as forecasting energy stability in all areas, increasing the level of diversification of fuel and energy balance and creating a favorable business environment in this regard.

The law provides benefits and preferences to renewable energy producers and consumers. In particular, QTEM will be exempt from property tax on energy production equipment, land tax on plots where this equipment is installed, value-added tax on energy sold by enterprises of Uzbekhydroenergo for a period of 10 years.

The equipment manufacturer is exempt from all taxes for a period of 5 years from the date of state registration. By law, persons using alternative energy sources with complete disconnection from the energy network of residential buildings are exempt from property and land taxes of individuals for a period of three years from the month in which they began to use alternative energy sources. According to the document, electricity and thermal energy from renewable energy sources for their own needs, as well as permits for the production of biogas and biomass are not required.

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