

REFORMS UNDERWAY FOR SUSTAINABLE ECONOMIC DEVELOPMENT OF
"GREEN ENERGY"

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Abstract: This article analyzes the reforms being implemented in Uzbekistan's energy sector and the policy aimed at developing the use of renewable energy sources. Energy and energy resources are essential for the sustainable development of the country's economy, and Uzbekistan has set goals to increase the share of renewable energy sources to 40 percent by 2030 and create 25 gigawatts of renewable energy sources. The article highlights the potential for solar energy. Uzbekistan's geographical location and the many sunny days throughout the year ensure the effective use of solar energy.

Keywords: energy, energy resources, renewable resources, sustainable development, solar energy, wind energy

Аннотация: В данной статье анализируются реформы, реализуемые в энергетическом секторе Узбекистана, и политика, направленная на развитие использования возобновляемых источников энергии. Энергия и энергетические ресурсы необходимы для устойчивого развития экономики страны, и Узбекистан поставил цели по увеличению доли возобновляемых источников энергии до 40% к 2030 году и созданию 25 гигаватт возобновляемых источников энергии. В статье освещена возможность использования солнечной энергии. Географическое положение Узбекистана и большое количество солнечных дней в году обеспечивают эффективное использование солнечной энергии.

Ключевые слова: энергетика, энергетические ресурсы, возобновляемые ресурсы, устойчивое развитие, солнечная энергетика, ветроэнергетика.

Annotatsiya. Ushbu maqola O'zbekistonning energetika sohasida amalga oshirilayotgan islohotlar va qayta tiklanuvchi energiya manbalaridan foydalanishni rivojlantirishga qaratilgan siyosatni tahlil qiladi. Energiya va energiya resurslari mamlakat iqtisodiyotining barqaror rivojlanishi uchun zarur bo'lib, O'zbekiston 2030 yilgacha qayta tiklanuvchi energiya manbalarining ulushini 40 foizga yetkazish va 25 gigavatt quvvatdagi qayta tiklanadigan energiya manbalarini yaratish maqsadlarini belgilagan. Maqolada quyosh energiyasidan foydalanish imkoniyatlari alohida ta'kidlangan. O'zbekistonning geografik joylashuvi va yil davomida ko'plab quyoshli kunlarga ega bo'lishi quyosh energiyasidan samarali foydalanishni ta'minlaydi.

Kalit so'zlar: energiya, energiya resurslari, qayta tiklanadigan resurslar, barqaror rivojlanish, quyosh energiyasi, shamol energiyasi

Energy and energy resources are one of the factors that ensure the sustainable development of the economy of any country, determine the level of its socio-economic development and the well-being of its population. According to experts and scientists, the existing natural fuel and energy resources (natural gas, oil) identified in the world will last for 60-150 years. Therefore, many countries are implementing policies to ensure energy security and increase energy efficiency.

In general, the need for a transition to a "green" economy was raised globally at the 2012 G20 summit in Los Cabos, Mexico, and later began to be reflected in the development strategies of a number of countries. On December 2, 2022, the Presidential Decree No. PQ-436 "On measures to increase the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a

"green" economy by 2030" was adopted in Uzbekistan [1]. On February 16, 2023, the Presidential Decree No. PQ-57 "On measures to accelerate the introduction of renewable energy sources and energy-saving technologies in 2023" [2] was adopted, practical work is being carried out to ensure the implementation of these resolutions.

The famous English economist Arthur Pigou in his work "Industrial Fluctuations" (1929) explained the importance of establishing a direct tax on hydrocarbon emissions, basing it on the theory of neutralizing externalities. However, the perception of the rationality of implementing and measuring impacts still causes contradictory discussions [3]. Nature presents such problems to humanity that the fastest possible elimination of environmental problems for the survival of humanity has become the main task for humanity.

Today, in the new energy system of Uzbekistan, large-scale projects are being implemented to ensure the country's energy security, increase energy efficiency, and provide sustainable energy to economic sectors. Our President is paying special attention to further reducing the energy intensity of our gross domestic product, reducing the cost of products, and implementing a "green energy" policy, that is, expanding the use of renewable energy sources, including solar, wind, and hydropower.

This involves sustainably providing the economy with energy resources by solving two tasks. Firstly, it is considered to diversify the fuel balance through the widespread use of renewable energy resources, that is, to reduce the contribution of natural fuels (natural gas, coal) in the production of electricity and heat by replacing traditional fuels with renewable energy sources.

Secondly, the tasks of reducing the energy intensity of production in economic sectors and improving the ecological condition of industrial areas have been set. The experience of developed foreign countries shows that solar energy, one of the renewable energy sources, has been well mastered in practice.

The reason is that solar energy is a biologically and environmentally safe, renewable energy that can be easily converted into heat and electricity based on methods known in science and used effectively for various purposes.

Let us dwell on some information on the use of solar energy. It has a very large energy source, and its light reaches the Earth in 8 minutes. The density of solar radiation energy on the Earth's surface is from 150 to 250 kilowatts/m² or 1300-2200 kilowatt hours/m² per year. Under the influence of solar energy, a favorable climate is created for humanity, flora and fauna. In addition, all types of energy resources on our planet are products of solar energy and serve humanity.

In recent years, as a result of scientific achievements and numerous innovations created by scientists and designers, modern technologies and devices for using solar energy have begun to be actively implemented. In recent years, Germany, Spain, and Japan have been leading the world in the use of solar energy.

It is known that in Cyprus there are 0.8 square meters of solar panels per capita, in Austria - 0.6 square meters, and in Israel - 0.57 square meters. In our country, there are 300-320 sunny days per year, which means that there is an average of 3000-3200 hours of solar energy available.

According to some scientifically based data, in Uzbekistan, an average of 1600 kilowatt hours of solar energy falls on one square meter of the earth's surface per year. This figure is 1044 kilowatt hours in European countries, for example, in the city of Yekaterinburg (Russia). If 15 percent of this solar energy is converted into electricity through modern photovoltaic plants, then in our country one square meter of solar panels can produce 200-240 kilowatt hours of electricity per year, and in Yekaterinburg - 157 kilowatt hours.

According to experts, since our country has about 300-320 sunny days a year, the potential of this sector is huge. As a result of the pragmatic policy implemented in the Republic of Uzbekistan since 2017, the economy is growing and the standard of living of the population is increasing.

which is reflected in a constant increase in demand for electricity. Our country aims to create 25 gigawatts of renewable energy sources by 2030 and increase its share in the energy balance to 40 percent. In 2023, large wind and solar power plants with a capacity of 2 gigawatts are being commissioned. The first steps are also being taken in the field of "green hydrogen" production.

By installing renewable energy sources, switching consumers to alternative energy, and introducing energy-saving technologies, it is planned to generate an additional 5 billion kilowatt-hours of electricity and save 4.8 billion cubic meters of natural gas in 2023, allocating a total of \$15.4 billion for these purposes, including \$13.4 billion in investor funds within the framework of public partnership projects, \$1.1 billion in loans from commercial banks, \$610 million in equity funds of enterprises, \$150 million in funds from foreign financial institutions, and \$100 million in state budget funds equivalent to \$100 million.

In conclusion, Uzbekistan's new energy policy, in particular, measures aimed at developing renewable energy sources and increasing energy efficiency, will ensure the country's economic stability and increase environmental safety. The great potential for the use of solar energy, advanced practices learned in the world, and large investments made by the state are the basis for the successful development of this sector.

REFERENCES

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