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USE OF WIND ENERGY FOR PRACTICAL PURPOSES

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Abstract: In this article, the use of wind energy for practical purposes, the development of this alternative energy power today It was considered how much the output is in Western Europe.

Keywords: Wind, SPPs, "Global Wind Energy Council", Wind turbine, Wind energy

Introduction: Economic development of Uzbekistan, market relations transition, application of complex technologies that save energy resources in agro-industry sectors and creation of their scientific basis is determined by

2017 of the President of the Republic of Uzbekistan "Renewable energy in 2017-2021" dated May 26 program of measures for further development, improvement of energy efficiency in economic sectors and social sphereon" decision No. PQ-3012 and May 21, 2019 "On the use of renewable energy sources". Law of the Republic of Uzbekistan No. O'RQ-539 research of alternative energy sources in our country, people legal work on the use and development of the economy serves as the basis.

Wind is a moving stream of air. The movement of air causes uneven heating of the earth's surface by the sun. Since the Earth's surface has different shapes - land and water space, it receives incoming heat in different volumes.

During a bright day, the air over the sea and the ocean, it warms faster over land. Heated air expands above the ground and rises to the sky, replaced by a layer of heavier cold air occupies and its movement creates the wind. Evening the wind changes its direction because it is over the water the air on the surface cools quickly. At the same time, a strong atmospheric wind sweeps around the entire earth, as a result of which the

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part near the equator - the part near the North and South Poles - heats up to a certain extent.

Of course, fuel or electricity can be substituted There are many tools that are created in unconventional ways. But among them, environmentally friendly, effective in use and at the same time acceptable in terms of funds choice is important. From this point of view wind energy has a number of advantages. Today, this alternative energy is produced production is very popular in Western Europe. The reason is that this type as long as the natural conditions are suitable for it the demand for energy is also increasing. Modern SHES 3–4 m/s relative to the relief of the wind environment with a speed of up to 25 m/s it works optimally in places that are not high. So territorial Germany, which has opportunities, is the wind at the moment is leading the world in terms of energy use. This alternative energy is economical and ecological has a number of advantages. For example, the construction of SPP is another energy relatively cheap and convenient sources. Produced energy the main part of the cost was initially spent on the construction of the SPP costs. Also, the base of the station tower because it is usually completely underground, even in the lands close to it the possibility of planting agricultural crops will be preserved. Simply put, it is reserved for such devices regions do not have a negative impact on agriculture. Also they never does not require any fuel. For example, 1MW Shes 20 years approximately 29,000 tons of coal or 92,000 barrels of oil saves Another aspect is that wind power plants are another form of energy Unlike manufacturers, it is harmful to the environment does not pollute with waste. Let's say a 1 MW device carbon dioxide released into the atmosphere of our planet every year (SO2) gas for 1800 tons, sulfate oxide (SO2) gas for 9 tons, nitrogen reduces its oxides to 4 tons. "Global Wind Energy The calculations of the organization "Council" are similar: 2050 due to the use of world wind energy by the year The annual volume of SO2 gas released into the atmosphere is 1.5 billion tonnage decreases. Most importantly, wind is inexhaustible by nature. After all, the power of this natural phenomenon is in all the rivers on earth it was determined that it is 100 times more than existing hydropower sources. All this is confidence in the prospects of wind energy strengthens.

Problems: 80% of the energy consumed today is natural as a result of burning coal, oil, gas, which are called fuels is being taken. Natural fuels will be the main energy source for several more decades remains a source. Then there are other ways to get

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energy must be found. Another source of energy besides natural fuels is hydroelectric power plants. However, many hectares of forests, pastures and fertile lands are lost for the construction of such hydropower stations has to pass. These are the artificial seas of hydropower plants it covers the land with its water. This is around artificial seas lands become unusable as a result of the rise of underground salt water will come. The third source of energy is nuclear power plants. But this how dangerous the stations Chernobyl Atom the disaster at the power plants clearly showed.

Solution: The movement of air makes the surface of the earth uneven by the Sun causes heating. The Earth's surface is of different forms - land and water since it has a space, it absorbs the incoming heat in different sizes accepts.

During a bright day, the air over the sea and the ocean, it warms faster over land. Hot air molecules above the ground expands (increases) and rises to the sky, its place a heavier layer of cold air takes over, and its movement creates wind creates. In the evening, the wind changes its direction because the air on the surface cools faster than that over the water. At one time the strong atmospheric wind in itself goes around the whole earth, as a result the part near the equator - near the North and South Poles it heats up to a certain extent compared to the part where it is located. Of course, fuel or electricity can be substituted There are many tools that are created in unconventional ways.

But among them, environmentally friendly, it is important to choose the one that is effective in use and at the same time financially acceptable. From this point of view wind energy has a number of advantages. Wind is the first energy used by humans is one of the sources. Wind energy reserves 100 times more than the hydropower of rivers, but today 107 MW □ hours of energy is produced worldwide per day. This the indicator is 0.001 percent of the world energy balance. Various programs for the use of wind energy in the world developed. Now scientists and engineers are agricultural and technically improved for industrial needs, constructions of strong and reliable wind engines created. Wind energy devices can be divided into 2 types:

1. Wind mechanic;
2. Wind energy.

First of all, it should be said that wind is a renewable energy source is considered That's why Kurrayi floats over our land The history of using air flow for domestic purposes is also long goes back. According to the sources, in the II century BC

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Windmills for threshing grain for the first time in Persia started to be used. By the 13th century, such devices came to Europe entered. Wind for electricity production and the first power plant (ShES) was built in Denmark in 1890 created. Project of a wind turbine in 1930 was developed and later in the Crimean city of Rossuya in the world the first 100 kW wind turbine with a diameter of 30 meters

Figure 1. General view of the wind turbine

the wheel is installed. Sevastopol electric power produced by SPP was directly connected to the power plant. But the Second

During the World War, this ShES was destroyed. 40-70 of XX century In 2010, this industry went through a period of crisis. Finally, By the 1980s, in the US state of California with the help of SHES creation of a number of benefits for electricity producers interest in the industry started to revive again. Germany's use of wind energy today is leading in the world. According to the data, 9000 MW power plants in this country in recent years has been established and this process continues rapidly. Europe now 60,000 in the branches of industry of the countries related to SPPs More than 100,000 people are permanently employed. The goals are the same okay For example, by 2020, Germany plans to produce 20 percent of its electricity using CHPs. While other members of the European Union plan to install 180,000 MW power plants, China plans to build 30,000 MW of such plants in its national development program. In addition, Great Britain, Norway, Canada, India, Japan, Spain, New Zealand purposeful development of the wind energy industry in the near future information about the development of state plans related to there is International Energy Agency (Inertnational Energy Agency) according to estimates, by 2030, wind will be on our planet the need for energy is 4800 gigawatts.

Large power (megawatt) turbines have large dimensions and their new models are electric power from 2 MW to 5 MW able to produce energy. A strong sea wind swirls to get them, they usually go to the water near the shore will be placed. Such wind

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turbines are currently in the UK, In Germany, Denmark, Ireland and other countries is being used.

References:

1. Бобылев С.Н., Ходжаев А.Ш. Экономика природопользования. Учебник. – Москва: 2003. – 567 с.

2. Германович В., Турилин А. Альтернативные источники энергии. Практические конструкции по использованию энергии ветра, солнца, воды, земли, биомассы. – Санк-Петербург: Наука и техника, 2011. – 320 с

3. Городов Р.В., Губин В.Е., Матвеев А.С. Нетрадиционные и возобновляемые источники энергии. – Томск: Изд-во Томского политехнического университета, 2009. – 294 с.

4. Nexus: Journal of Innovative Studies of Engineering Science (JISES)Volume: 02 Issue: 06 | 2023 http://innosci.org/ ISSN: 2751-7578

5. Khasanov Diyorzhan Ramish 1, Abdunazarov Shahzodbek 2, Otakuzieva Vazirahon Usmanjonova 3., Production of an Improved Version of Alternative Energy Sources, Miasto Przyszłości Kielce 2023 Impact Factor: 9.2 ISSN-L: 2544-980X

6. Khasanov Diyorzhan Ramish boy, Abdug'aniyeva Mohirahon TDTU Kokan, Branch student Otakuzieva Vazirahon Usmanjonova TDTU Kokan Branch Professor (PhD)., Role of Wind Turbens in Renewable Energy Sources, Nexus: Journal of Innovative Studies of Engineering Science (JISES) Volume: 02 Issue: 06 | 2023 ISSN: 2751-7578 http://innosci.org/