THE IMPORTANCE OF USING WIND ENERGY IN THE DEVELOPMENT OF GREEN ENERGY IN UZBEKISTAN.

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ANNOTATION. The article provides some information about the problems that arise in the power supply in the Republic of Uzbekistan and the possibilities of solving these problems using wind energy. The results of a study conducted by a research group consisting of teachers and students of the Bukhara Institute of Engineering and Technology are presented. Based on the results of the research, it was determined that the average annual wind speed when using wind energy in the Bukhara region is high.

KEYWORDS. wind energy, wind speed, small business, electricity supply, remote areas.

Currently, the level of electricity supply in our country cannot be considered very good. The first reason is the lack of energy, and the second reason is the outdated electricity transmission networks. The reliability of electricity supply is very low, especially in remote areas. This has a great negative impact on the economic and social development of remote areas. Taking into account that almost 50% of the population of the Republic of Uzbekistan lives in rural areas, the low reliability of electricity supply in rural areas is considered a very big problem (Fig. 2). Based on the data of 2018, the number of urban population is 698.6 thousand and the number of rural population is 1,171.60 thousand. It can be seen that the population of Bukhara region lives mainly in rural areas.

Based on this, it can be said that the demand for the basic energy resources required to improve the human standard of living also arises in rural areas. Figure 1 shows the distribution of electricity consumed by economic sectors in Bukhara region. We can also see in the graph that the amount of electricity consumed by agriculture is a much larger part of the economy. In addition, increasing the use of alternative energy sources in the remote areas and throughout the republic can make a significant contribution to the growth of the republic's economy by localizing the production of alternative energy sources. By localizing the production of alternative energy sources, many enterprises will be created, employment of the population will be ensured, and the income of the producing enterprise of the population will increase.

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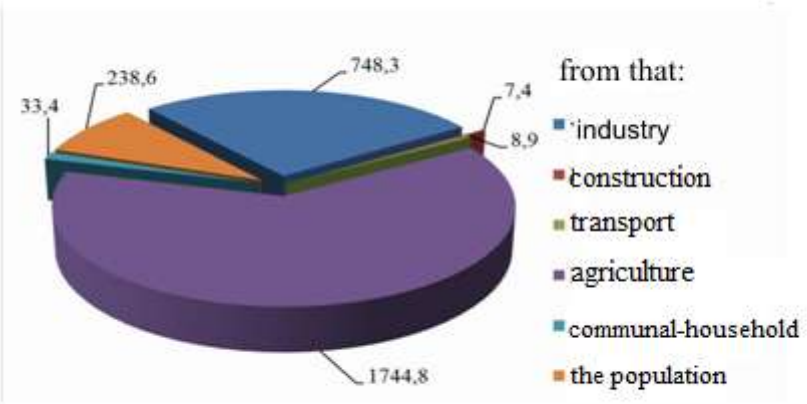
With the increase in income, the economy of our republic will grow due to the increase in the amount of taxes paid to the state.

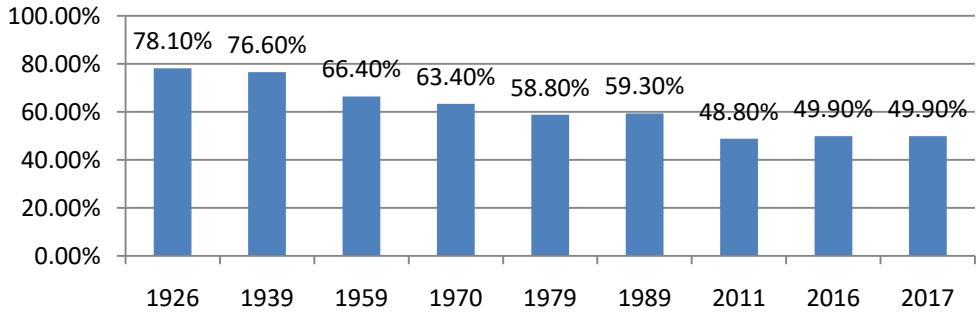
Figure 1. Structure of electricity consumption in 2018 by economic sectors of Bukhara



region[].

If we increase the reliability of electricity supply in remote rural areas, small business and private entrepreneurship will develop in these areas, and employment of the population living in these areas will be provided. Even now, small business and private entrepreneurship are widely developing in district cities, but only in areas with well-developed electricity supply reliability and other infrastructure, while in areas with low electricity supply reliability and poorly developed infrastructure, there are a few small business entities. has been showing less activity. Table 1 shows the number of newly established small business entities (excluding farmers and peasant households) in the regions and cities.

Figure-2. Share of the rural population in the total population in Uzbekistan (%)



Here in the city of Bukhara, 625 new small business entities were established, and we can see that this indicator is much lower in the remote areas of the region. The low level of small business and private entrepreneurship in the regions leads to the low level of employment of the population living in this region. Low employment of the population causes various social problems.

Table 1. The number of newly established small business entities (without farmers and peasant farms) in the district and urban areas of Bukhara region (in units)..

		2019 y. January-march	2019 y. January-april	2019 y. January-may	2019 y. January-june	2019 y. January-july
	Olot district	84	97	116	132	143
	Bukhara district	134	191	227	251	279
	Vobkent district	121	147	162	185	200
	Gijduvan district	297	365	429	463	506
	Kagon district	96	127	152	171	184
	Karakol district	107	125	139	155	173
	Korovulbazar district	47	57	68	73	75
	Peshku district	94	127	144	165	185
	Romitan district	187	242	282	304	336
0	Jondor district	175	222	260	291	331
1	Shafirkon district	132	162	210	235	258

2	Bukhara city.	625	844	1051	1175	1295
3	Kagon city	83	96	133	150	158
4	Bukhara region (total)	2182	2802	3373	3750	4123

It is necessary to increase the use of alternative energy sources in remote areas and introduce energy saving measures, drawing appropriate conclusions from this situation. Especially in remote areas, the use of alternative energy sources in the power supply system can be very effective. Because there are a number of problems in providing electricity to remote areas. For example: For low-power consumers, it is required to carry an electric grid over long distances, and the longer the electric grid is spread, the more waste there is. Due to the need to use conductors, supports, transformers and other network elements used in long-distance transmission, the transmission line is expensive for the transmission company. In the event of a power shortage in the power supply system, electricity supply to consumers in remote areas will be interrupted.

Therefore, the reliability of electricity supply in remote areas is lower than in urban areas or district centers. In such cases, the use of additional alternative energy sources in the electricity supply will be of great benefit.

Among the renewable energy sources, the use of wind power is one of the promising projects. Based on the research conducted by our experts and foreign scientists, the potential of wind energy in the territory of our republic is 520 GW. Scientific studies on the possibilities of using wind energy are being carried out in the territory of Bukhara region, including in the territory of the Bukhara Institute of Engineering and Technology.

For most regions of Uzbekistan (Fig. 3), an increase in wind energy potential was observed in mid-summer, i.e. in July-August. Figure 3 shows graphs of monthly average wind speed changes in the regions of Uzbekistan. It can be seen from the curves that the average speed of the wind in the Republic of Navoi, Bukhara, Khorezm and Karakalpakstan is relatively high, and it can be seen that the energy potential of the wind is high in these

regions. This, in turn, shows that there is a basis for the development of wind energy in these regions.

Based on the data received from the Bukhara meteorological station and the research conducted by the researchers of the institute, the possibilities of using wind energy in the territory of Bukhara region were studied. Research has shown that the average speed of the wind at a height of 10 m in this area is 3.36 m/s in spring and 3.96 m/s in summer.

Figure 3. Average monthly wind speed in the regions of Uzbekistan.

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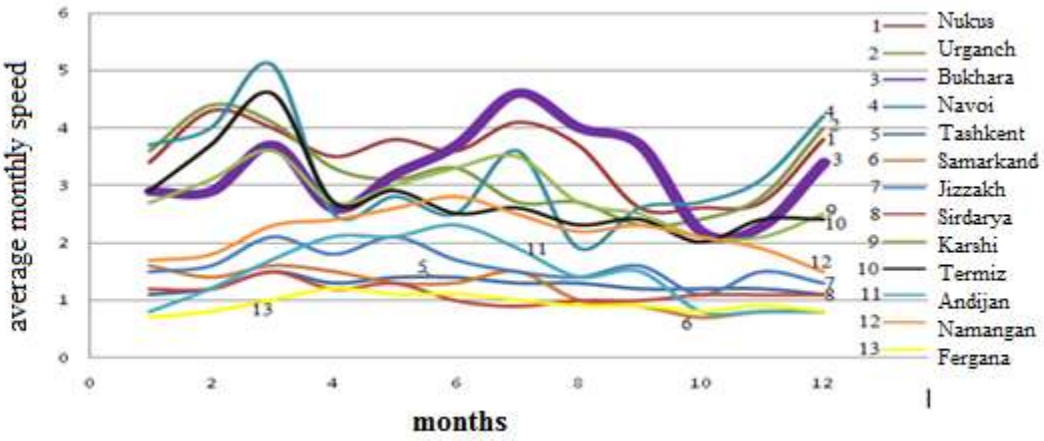

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