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Possibilities of influence of green energy on the development of the national economy

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Abstract: Problems of interaction between economy and ecology have traditionally received insufficient attention. At the same time, it is difficult to argue with the fact that economic growth is linked to increased pollution and environmental degradation. This is expressed by depletion of natural resources, disruption of the biosphere balance and climate change, which limits the possibilities of future development.

Keywords: Green energy, Green economy, Energy security, Green Energy Zone.

1. INTRODUCTION

Azerbaijan, which has great potential for renewable energy sources, is already an example of a successful transition to an alternative energy source. Despite the fact that the modern organization is inextricably linked to oil production, our country is a leader in the region in the application of innovative innovations aimed at the transition to green energy and makes its material contribution to the fight against the consequences of climate change.



Considering that Azerbaijan has 270 windy and 300 sunny days per year, it can be said that the development of solar and wind energy in this region is more promising. For Azerbaijan, which consists of 60 percent mountainous

areas, wind energy is the most profitable among other alternative energy sources such as solar, hydropower,

geothermal and biomass energy due to its cost, environmental cleanliness and inexhaustibility. The decision to hold one of the largest and most prestigious

events in the world, the 29th session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP29) in Baku, was the logical result of the government's efforts to contribute to the transition to a green economy and Azerbaijan's undeniable influence in the international world. The holding of this conference in Azerbaijan will give an opportunity to demonstrate to the world the achievements of our country in the field of energy transition. After that, 2024 was announced as the "Year of Solidarity for a Green World" in the Republic of Azerbaijan. The President of the Republic of Azerbaijan, Mr. Ilham Aliyev, is considered to be one of the main directions of turning the liberated territories into a "green energy" zone. After the 44-day Patriotic War, on January 6, 2021, the President of the Republic of Azerbaijan, Mr. Ilham Aliyev, at the meeting on the economic results of 2020 a strategic view on the creation of a Green Energy Zone in the territories freed from occupation was put forward and for this it was stated that

there is sufficient renewable energy potential in those territories.



2. EXPERIMENT DETAILS

Within the framework of the establishment of the Green Energy Zone, production of electricity from renewable energy sources, energy efficiency measures, use of electric vehicles, installation of renewable energy devices on the roofs of buildings, as well as the use of solar energy-based LED lamps for lighting streets, measures such as the use of renewable technologies in supply, the application of smart energy technologies, and energy-oriented waste management are planned.

There is a favorable potential for solar energy projects in Gubadli, Zangilan, Jabrayil and Fuzuli regions, and this technical potential is estimated at more than 7200 MW. It has been determined that the technical potential of wind energy in the mountainous areas of Lachin and Kalbajar is 2000 MW. In addition, there is a large hydropower potential in the Tartarchay, Hekari rivers and their tributaries.



Building energy infrastructure and ensuring energy security are given special importance as an important component of the process of restoration of the liberated territories. According to this, 4 hydroelectric power stations with a capacity of 20.2 MW restored in Lachin, Kalbajar and Sugovushan have already been put into operation: "Gulabird" HPP - 8 MW; "Sugovushan-1" HPP - 4.8 MW; "Sugovushan-2" KSES - 3.0 MW; "Kalbajar-1"

KSES - 4.4 MW. The construction of two hydroelectric power plants with a total capacity of 140 MW for the Azerbaijani side (100 MW "Khudafarin", 40 MW "Giz Galasy") on the territory of Jabrayil region is currently being continued.

The implementation of the wind power plant project, which is planned to be built in Lachin Kalbajar area with a capacity of approximately 100 MW, will contribute to the creation of the "Green Energy Zone" in the liberated territories.

In addition, on June 3, 2021, an Executive Agreement was signed between the Ministry of Energy of the Republic of Azerbaijan and the BP company on the evaluation and implementation of the 240 MW solar power plant construction project in the Zangilan Jabrayil zone.

In the field of alternative energy, the government of Azerbaijan plans to implement the project to build a power plant in Yashma and turn Nakhichevan into a green energy zone along with Karabakh and East Zangezur (possibility of building a 500-capacity solar power plant).

As an alternative option, SOCAR is considering investing in hydrogen projects directly from sales sources in Europe. It should be noted here that according to the calculations of international organizations, SOCAR will achieve decarbonization in the next 10 years. This is a shorter timeframe than many other countries have set for decarbonization. By 2030, Azerbaijan plans to reduce greenhouse gas emissions by 35 percent (compared to 1990), and by 2050 by 40 percent.

In general, if we talk about the priority areas of the energy transition, such as the production of hydrogen - green and its other types, then the Caspian region has great opportunities to become a center for the production of all types of hydrogen. Construction of new infrastructure, great potential, experience - all these factors play an important role in attracting important energy companies to invest in renewable energy sources.

Thus, according to the information of the Ministry of Energy of Azerbaijan, the technical potential of renewable energy sources of the country is 135 GW on land and 157 GW on sea. The economic potential of renewable energy sources is 27 GW, including wind energy - three thousand MW, solar energy - 23 thousand MW, bioenergy potential - 380 MW. The potential of mountain rivers is estimated at 520 MW.

Last year, at the meeting held by the Center for Sustainable Values within the framework of the EU Green Week (June 3-11, 2023 - ed.), Wind Europe chief policy director Pierre Tardieu said that Azerbaijan has a competitive advantage, especially when it comes to wind energy and green hydrogen.

Azerbaijan is also actively working with its partners towards the establishment of the Caspian-EU energy corridor. At the official opening ceremony of the 230 MW Garadagh Solar Power Station on October 26 of this year, President Ilham Aliyev said: "After a few months, we will receive a full feasibility study of the new project that will

ensure the energy security of the Green Energy Corridor."
 - A number of complex installations for production, transmission and consumption, including the laying of an electric cable along the bottom of the Black Sea. Currently, a feasibility study is being prepared for the production of 4 GW of renewable energy resources.



Challenges facing the countries of the world and expected structural changes in the global energy balance have set tasks for the region such as increasing sustainable and clean energy forces and defining new energy routes. friendly technologies, clean energy sources, waste recycling and rehabilitation of polluted areas.

systems of neighboring states, protects peace, stability and security in the region.

Thus, the future economic development of Azerbaijan will be closely related to the use of environmentally friendly technologies, clean energy sources, waste recycling and rehabilitation of polluted areas.

The introduction of innovative and transformative changes contributes to the development of the "green" economy in various sectors.

These technologies will allow us to achieve the following goals of the modern national economy:

1. Reducing environmental pollution and increasing resource efficiency in construction, manufacturing, agriculture and infrastructure sectors.
2. Reducing negative climate change through the transition to green, cleaner energy (wind, solar, geothermal, tidal, hydro and bioenergy, waste-to-energy, hydrogen) and low-carbon energy, end-use processes (electric or hybrid engines).
3. Reducing vulnerability and adapting to climate change through the creation of early warning systems and technologies resistant to temperature anomalies; improved management of biodiversity and forest resources.
4. Enhancing well-being through more productive and sustainable use of biodiversity resources, including natural cosmetics and pharmaceuticals.

3.CONCLUSION

According to the forecasts of experts, by 2030, the share of renewable energy sources in the electricity production capacities installed in Azerbaijan will reach 30 percent. As a result of all this, many countries, including the USA and Australia, show interest in green energy in Azerbaijan. The Federal Republic of Germany alone plans to invest nearly 1 billion dollars in renewable energy sources in Azerbaijan. Prospects for the development of the alternative energy market in Azerbaijan open opportunities for many companies with relevant experience to implement various projects in both wind energy and solar energy production, hydropower and other fields of green energy.

Thus, the future economic development of Azerbaijan will be closely related to the use of environmentally

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