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## Green energy - the key to geopolitical independence

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## Green energy - the key to geopolitical independence

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**Abstract:** Economic growth in Uzbekistan leads to an increase in the demand for energy resources, and one of the most important factors determining economic prospects remains ensuring energy stability. Insurance of the contract obligations of the exporter or his bank of the Republic of Uzbekistan in cases of non-fulfillment of the contract until the export shipment is carried out or after the shipment is carried out. Uzbekistan's agriculture has a huge export potential, and it is becoming increasingly obvious that fruits, vegetables and melons grown on this sunny land can take a strong place in world markets. This can be seen in the growing demand of the countries of the world for fruits and other agricultural products grown in Uzbekistan. Given such a growing demand, the expansion of activity insurance and insurance protection of agro-industrial enterprises and their servicing enterprises in the supply of agricultural products to world markets by exporters of agricultural products is becoming one of the strategic issues that are in the focus of our government's attention.

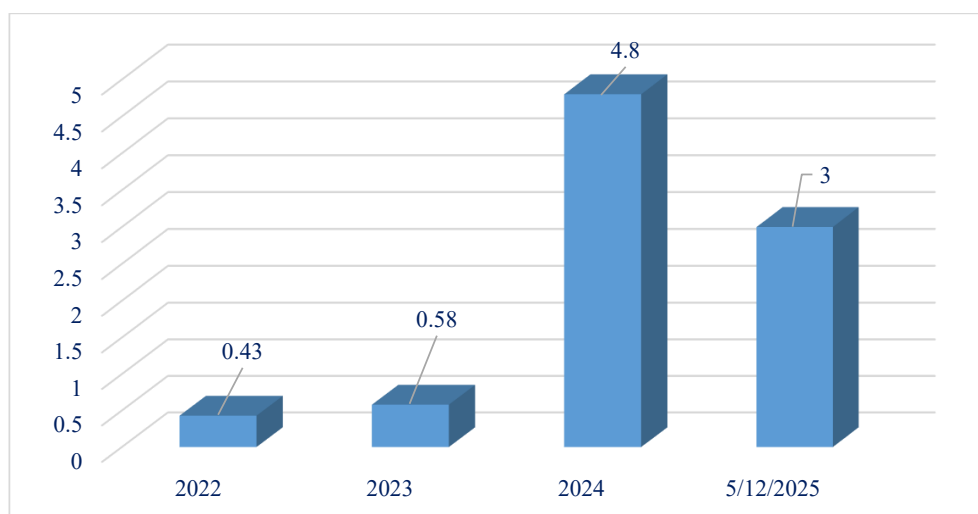
### INTRODUCTION

One of the most important factors determining the economic prospects of Uzbekistan is energy stability. This primarily depends on projects aimed at the production of renewable energy. Because the increase in the share of green energy should also reduce the cost of electricity in the future.

Economic growth in Uzbekistan leads to an increase in the demand for energy resources. A significant portion of the republic's electricity is generated by thermal power plants. The old equipment and lack of natural gas fuel for electricity generation are causing shortages during the unusually hot and cold days that have been frequently observed in recent years. As a result, the disconnection of tens of thousands of business entities from the network during the winter months and long queues at gas stations have become commonplace. [1]

The government is concluding contracts with long-term guarantees for the purchase of electricity from projects based on the "take or pay" principle at a price of 3.5 cents or less. According to the latest data released by officials, in April 2024, the cost of 1 kWh of electricity was about 1000 soums. In the context of the lack of transparency in pricing and the continued subsidization of the system from the budget, an increase in the share of affordable energy sources is of great importance for the country's economy.

Uzbekistan has seriously embarked on the diversification of its energy system. In particular, over the past 5 years, 50 agreements worth about 30 billion dollars have been signed in the energy sector. Currently, 11 solar photovoltaic and 3 wind power plants with a capacity of 4067 MW are generating green energy in 10 regions of the republic. [2]



**Figure 1.** Amount of electricity generated by solar and wind power plants in Uzbekistan (billion kilowatt-hours)

As of May 12, 2025, the volume of electricity generated by solar and wind power plants in Uzbekistan since the beginning of the year amounted to 3 billion kw. This figure was 434 million kw throughout 2022, 576.9 million kw in 2023, and 4 billion 860 million kw in 2024.[7]

In turn, the share of renewable energy sources in total consumption is expected to be 15 percent in 2023, 20 percent in 2024, and 25 percent in 2025. This indicator is projected to reach 54 percent by 2030.

According to the 2023 report of the International Energy Agency, in many countries, the construction of new solar and wind power plants has become cheaper than the operation of existing gas or coal stations. Due to technological progress, prices in this sector are decreasing year by year. In addition, renewable energy sources reduce greenhouse gas emissions into the atmosphere while providing electricity to thousands of households.[3]

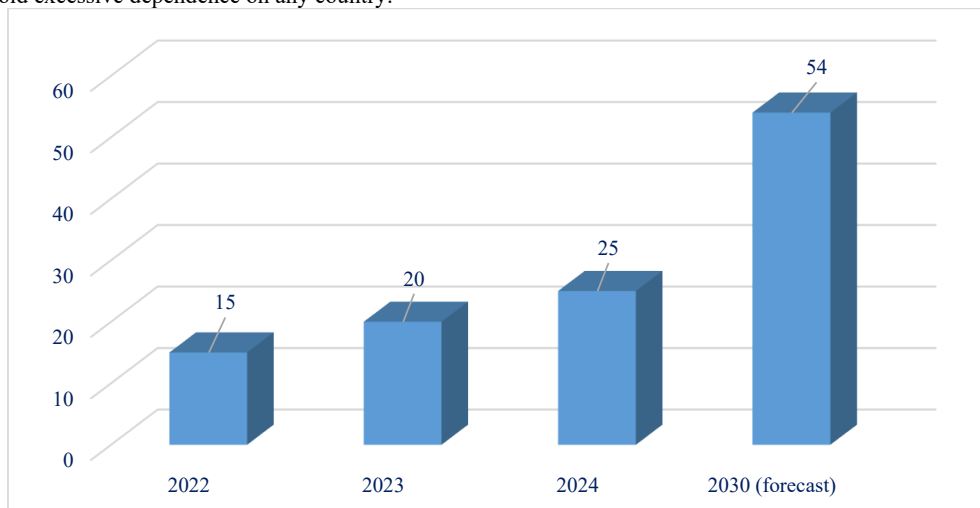
## EXPERIMENTAL RESEARCH

The statistical and econometric analysis carried out within the framework of this study show that Uzbekistan has relative advantages in the production and export of such products. The country's favorable climatic conditions and low production costs allow it to be competitive in the Chinese market. However, in order to achieve this goal, we believe that the government of Uzbekistan should remove a number of existing restrictions and create additional conditions for fruit exporters. In turn, the cost of producing technologies for renewable energy sources is also decreasing year by year. Another problem in this regard is the dry climate of Uzbekistan. Due to water scarcity and a decrease in precipitation, sandstorms and similar natural phenomena have increased. This can seriously affect the performance of solar panels and reduce their efficiency. [1]

Notably, in recent months, EU countries have also begun to show serious interest in green energy projects in Uzbekistan. In particular, during President Shavkat Mirziyoyev's visit to France, a number of issues were discussed in this regard. French companies may also be involved in the project for the construction of a low-capacity nuclear power plant in the Jizzakh region. Negotiations were held with companies such as Assystem as a technical partner, Bureau Veritas for training specialists, and Framatome for technical management. Also, at the "Central Asia - European Union" summit in Samarkand last month, European Commission President Ursula von der Leyen announced the allocation of a 12 billion euro investment package for the countries of Central Asia. A significant portion of these funds will be directed to the commissioning of green capacities. Both sides are equally interested in expanding cooperation with the European Union in the energy sector.

Russia is not active in solar or wind energy projects in Central Asia; on the contrary, official Moscow is trying to maintain its influence in Uzbekistan by building a nuclear power plant and increasing gas exports. However,

Uzbekistan has stated in official circles that it supports "diversification of energy sources," that is, the main goal is to avoid excessive dependence on any country.



**Figure 2.** Share of renewable energy sources in total consumption in Uzbekistan.

As noted above, Uzbekistan has great potential for the transition to green energy. More than 300 sunny days a year are observed in the country, and there are favorable areas for wind energy. That is, the potential of natural resources is at a high level. The main problem is the lack of transparency in the energy system and inefficient management of available resources. It is noteworthy that in recent years, projects for the creation of renewable energy sources have been provided to investors without tenders, on the basis of direct contracts. Government representatives explain this by saving time. But the most important point in the contracts being signed during direct negotiations - prices - is not disclosed. As a rule, electricity purchase transactions are concluded in foreign currency, and in the event of a sharp depreciation of the national currency, the costs of the government may increase.

An important factor in the process of implementing an export contract is the mutual distribution of responsibilities between partners, as well as the determination of financial sources of compensation for possible losses as a result of the occurrence of unforeseen circumstances (see Table 1) [4].

**TABLE 1.** Information necessary for the distribution of liability between partners in export cargo insurance

The responsible party for cargo insurance	The mutual agreement between the exporter and the importer is indicated mainly in the contract.
The party responsible for the loss, theft and damage of the cargo before the exporter	- Transport enterprise (except in cases where the transport enterprise has not been able to stop the situation of loss or damage of cargo and does not depend on it). - Transport forwarding company, which, according to the contract, takes responsibility for the storage of cargo.
De facto document confirming that the cargo is insured	Insurance policy issued by the insurance organization under an export contract.
Information provided in the application of the insurer on the conclusion of the insurance contract	Brand name, weight, place number, cargo packaging type. - Type of transport and method of transportation (in grain, container and other form). - Shipping time. - Transportation documents. - Insurance amount of cargo. - Insurance conditions (liability for all risks or part).
Documents provided by the insured under the insurance claim	The original of the insurance policy. - Nakladnoy or other shipping document. - Invoys (schet-invoice). - Accident Certificate, Examination Certificate or other document confirming the occurrence of an insured event.

The main system in this matter is insurance activities. The types of insurance services offered for exporters in the insurance market of Uzbekistan are as follows: export contract insurance, road freight insurance, comprehensive insurance. Export contract insurance consists in insuring the contract obligations of a foreign partner or his bank or an exporter of Uzbekistan or his bank until the export shipment is made or in cases of inability to fulfill after the shipment has been made, as a result of the occurrence of events related to political and commercial activities. Foreign trade cargo insurance provides for the compensation of damage seen as a result of its partial loss, damage or complete loss in the process of delivering this cargo from the exporter to the importer, while at the same time compensating for losses arising in the processes of its transportation, storage, increase and discharge.

The transition to green energy is very important not only from an ecological and economic point of view, but also from the point of view of geopolitical independence. Currently, most of the projects are being implemented by companies from Saudi Arabia (ACWA Power), the UAE (Masdar), and China (China Energy, China Datang). In the future, an increase in the number of European companies with extensive experience in the field of green energy will allow for increased competition and non-polarization of investment flows. An increase in supply reduces prices. Unlike Russia and China, it is possible to attract investments from the countries of the Persian Gulf (UAE, Saudi Arabia) and the European Union without possible geopolitical consequences. In general, cooperation with EU countries allows Uzbekistan to import technological know-how, train personnel, and introduce innovative solutions. [2]

These changes have brought the economic aspects of cooperation between Uzbekistan, rich in natural resources, and the economically powerful European Union to the forefront of the agenda. In particular, France is showing great interest in Uzbek uranium. In particular, exports from Uzbekistan to France amounted to 72 million dollars in 2022, and by the end of 2024, this figure reached 795 million dollars, or increased 11 times. [7].

Critical minerals are important raw materials for the production of green energy systems, semiconductors, batteries, and defense devices. In recent years, China's dominance in this sector has been growing. In this context, along with Kazakhstan, Uzbekistan has significantly increased its role as the main supplier of essential metals and resources to meet the strategic needs of the European Union.

In addition, starting from 2030, Uzbekistan plans to export surplus green electricity produced in the country to Europe through Azerbaijan. In November 2024, the presidents of Uzbekistan, Kazakhstan, and Azerbaijan launched the project to create the "Central Asia - Azerbaijan - Europe" green energy corridor. In December, the founding agreement for the project was signed between the three countries.

## CONCLUSIONS

Energy is the lifeblood of the economy. The year-on-year increase in consumption leads to a decrease and increase in the cost of resources, an increase in dependence on imports. In turn, the issue of environmental protection and ensuring environmental sustainability is one of the most important aspects today. Therefore, the transition to renewable energy sources is becoming increasingly important for Uzbekistan. For a country that still relies heavily on natural gas in its energy production, this is the only way to ensure energy security and guarantee long-term stability. [6]

The lack of introduction by the state of benefits and methods of material support for agricultural insurance does not increase interest in potential insurers in the insurance of risks associated with their activities. In addition, the high level of harmfulness of agricultural insurance is the reason for the lack of development of competition in agricultural insurance among insurance companies.

The tariff rates offered by commercial-based insurance companies are relatively high, activity transparency is not ensured, and trust in insurance companies is at a low level. The organization of non-profit-shaped insurance societies among agricultural enterprises specializing in the insurance of their activities eliminates the above factors.

A significant increase in the export of wet and dried fruits by agricultural enterprises of Uzbekistan and private household farms increases the need to provide this sector with insurance services at the level of demand. In ensuring this need, it is necessary to develop new insurance products based on public-private partnerships.

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