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GREEN ECONOMY AS A FACTOR OF INFLUENCE IN ENSURING SUSTAINABLE DEVELOPMENT OF THE LABOR MARKET AND JOBS IN UZBEKISTAN

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Abstract: This article explores the impact of the green economy on the labor market and the modernization of workplaces in Uzbekistan. It highlights the role of state support and educational programs, alongside an analysis of employment growth trends within the renewable energy sector. The study examines the development of green energy as a pivotal factor for economic growth and enhancing the country's global competitiveness. Furthermore, the paper identifies risks associated with climate change and automation, while proposing strategic measures to ensure a just transition to a sustainable economy.

Keywords: labor market, sustainable development, working conditions, investment, human resource adaptation, skilled workforce, state support, green economy, renewable energy, labor market transformation, low-skilled foreign workers, environmental sustainability, climate change, economic growth, workplace modernization.

Introduction

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The development of green energy entails a transformation of the labor market, stimulating the creation of jobs with high safety standards and environmental responsibility. Implementing innovative solutions in energy requires the active participation of educational institutions and vocational training programs to ensure a qualified workforce that meets the demands of the digital and green economies. This sector is becoming a key factor in sustainable economic development, creating new jobs and facilitating the modernization of the professional environment.

The transition to renewable energy sources requires specialists in fields such as the design, operation, and maintenance of energy-efficient technologies, which shapes the demand for new professions. Additionally, modernizing workplaces within this context improves working conditions and increases job attractiveness. President Sh.M. Mirziyoyev emphasized that green energy is a driver of Uzbekistan’s economy, significantly increasing the local production of transformers, cables, and solar panels.

Globally, the International Renewable Energy Agency (IRENA) reported 13.7 million jobs in renewable energy in 2022. By 2030, the clean energy sector is projected to create an additional 8 million jobs worldwide. In Uzbekistan, the launch of 14 new stations in 2025 is expected to open a market worth at least $1 billion for domestic enterprises.

Research Methods

The study utilizes methods of systemic and comparative analysis, economic-mathematical modeling to forecast the impact of climate change on employment, and content analysis of Uzbekistan's green economy strategies. An interdisciplinary approach was applied, based on the analysis of theoretical sources, statistical data, and empirical research.

Research Results

In Uzbekistan, a decline in labor supply is projected as temperatures rise: a 2% decrease at a 1.5°C increase, 5% at 2.0°C, and 10% at 3.0°C by the year 2100. Under extreme scenarios (3.0°C), employment could drop by nearly half in the worst-case scenario. This is particularly critical for Uzbekistan due to the high share of outdoor and agricultural labor.

Impact of global warming on employment: projected changes under different temperature rise scenarios

High temperatures affect both labor supply (hours worked) and productivity. By 2030, global economic losses due to heat-related productivity decline are projected to reach $2.5 trillion annually. In Uzbekistan, agriculture and construction sectors are most exposed to these risks.

The "green" transition will also alter specific sectors. For example, moving to high-value-added production in agriculture will reduce the number of cotton pickers, a change that will disproportionately affect rural women, who make up 65.0% of this workforce. However, shifting toward textile processing will create new jobs for women, though these will require different skills and locations.

Discussion

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The transition to sustainable energy requires the preparation of qualified personnel through educational institutions specializing in renewable energy and energy efficiency. A key challenge is ensuring a "just transition" for workers previously employed in fossil fuel industries through retraining programs.

While digitalization and automation improve efficiency, they also pose risks of job displacement. In Uzbekistan, the green energy sector offers prospects for attracting investment and modernizing production capacities in high-tech industries.

Conclusion

For Uzbekistan, the transition to a green economy necessitates strengthening STEM (Science, Technology, Engineering, and Mathematics) education programs. Furthermore, implementing water-saving technologies in agriculture—which consumes 90.0% of the country's water—is critical for sustainable employment in the agrarian sector.

Successful implementation requires a comprehensive approach, including educational reforms, investment in new technologies, infrastructure development, and social support for workers affected by the transition to sustainable production models.

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