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**THE MARKET FOR ELECTRIC LIGHTING PRODUCTS IN**  
**UZBEKISTAN: CURRENT DYNAMICS AND FUTURE PROSPECTS**

**Abstract** This article analyzes the current state and evolutionary trends of the electric lighting products market in Uzbekistan. Amidst rapid urbanization, large-scale housing construction, and a national transition toward energy efficiency, the demand for advanced lighting solutions—particularly Light Emitting Diodes (LED)—has seen exponential growth. The study examines the shift from imported dominance to localized production, the impact of government energy-saving policies, and the integration of "Smart City" technologies. Findings suggest that while the market is becoming increasingly competitive, the future lies in high-tech localized manufacturing and sustainable smart lighting systems.

**Keywords:** Uzbekistan, Lighting Market, LED Technology, Energy Efficiency, Smart Lighting, Localization, Construction Sector.

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**РЫНОК ЭЛЕКТРООСВЕТИТЕЛЬНОЙ ПРОДУКЦИИ В**  
**УЗБЕКИСТАНЕ: ТЕКУЩАЯ ДИНАМИКА И ПЕРСПЕКТИВЫ**  
**РАЗВИТИЯ**

**Аннотация** В данной статье анализируется современное состояние и эволюционные тенденции рынка электроосветительной продукции в Узбекистане. На фоне стремительной урбанизации, масштабного жилищного

строительства и государственного перехода к энергоэффективности спрос на передовые осветительные решения, в частности на светодиоды (LED), демонстрирует экспоненциальный рост. В исследовании рассматриваются переход от доминирования импорта к локализации производства, влияние государственной политики энергосбережения и интеграция технологий «Умный город» (Smart City). Результаты показывают, что, несмотря на растущую конкуренцию на рынке, будущее отрасли связано с высокотехнологичным локализованным производством и устойчивыми интеллектуальными системами освещения.

**Ключевые слова:** Узбекистан, рынок освещения, светодиодные технологии, энергоэффективность, умное освещение, локализация, строительный сектор.

## **1. Introduction**

The Republic of Uzbekistan is currently undergoing a period of profound economic transformation. As the most populous country in Central Asia, its infrastructure development and construction sectors have become primary drivers of domestic demand. Within this context, the electric lighting products market has evolved from a basic utility sector into a high-technology industry. The transition is catalyzed by the government's Strategy for Transition to a "Green" Economy, which mandates the phasing out of inefficient incandescent lamps in favor of energy-saving alternatives. [1]

## **2. Current Market Dynamics**

Uzbekistan's economy has demonstrated steady growth in recent years. According to 2024 data, the country's gross domestic product (GDP) grew by 6.5% in real terms. According to the International Monetary Fund (IMF), Uzbekistan's economy is among the countries with the most stable growth indicators in the region (IMF, 2024). Ensuring macroeconomic stability, keeping inflation under control, and maintaining a balanced public budget demonstrate the effectiveness of the country's economic policy.[2]

In his study, Russian economist V.A. Kolesov (2021), highlighting the specific features of Uzbekistan's economic model, notes its distinctive features compared to other post-Soviet countries. In particular, he commends the country's phased reform strategy and balanced privatization processes.[3]

Industry is an important component of Uzbekistan's economy, accounting for a significant share of the gross domestic product. In recent years, the country has developed a new industrial policy concept aimed at import substitution and increasing export potential. At the current stage of industrial development, technological modernization and the implementation of innovative solutions are considered priorities. American economist M. Porter (2020), in his theory of "competitive advantage," emphasizes that the development of modern industry should be based on technological innovation and the production of high-value-added products.[4]

Russian scholar A.G. Granberg (2019), in his theory of regional economics, examines the formation and development of industrial clusters and positively evaluates the creation of industrial zones in Uzbekistan. He particularly notes the creation of special industrial zones in the country and their transformation into attractive factors for international investors.[5]

Energy is a strategic sector of the Uzbekistan economy, playing a crucial role in ensuring the country's energy security. In 2024, a number of important changes were implemented in the energy sector. In the process of modernizing the energy system, studying international experience is essential. Japanese energy specialist T. Yamamoto (2021) examines issues of improving energy efficiency and implementing energy-saving technologies in his study. In his opinion, modernizing the energy system in developing countries is essential for economic growth.[6]

The main problems in the energy sector include outdated infrastructure, high technical losses, and low energy efficiency. To address these issues, the

government has developed a comprehensive program that provides for the phased modernization of the energy system.

The lighting market in Uzbekistan can be segmented into residential, industrial, and outdoor (street) lighting. Historically, the market was heavily reliant on imports from China, Turkey, and Europe. However, recent years have seen a structural shift.

- **Construction Boom:** With the "New Uzbekistan" initiative, the scale of residential and commercial real estate development has reached record highs. Every new housing unit requires a comprehensive lighting suite, ranging from internal fixtures to external aesthetic lighting. [7]

- **The LED Revolution:** In accordance with national energy efficiency programs, Uzbekistan has implemented a phased ban on the sale of high-wattage incandescent bulbs. This has led to a near-total dominance of LED products, which now account for over 80% of retail sales in the urban sector. [8]

### **Localization and Industrial Policy**

A key feature of the current market is "Localization." To reduce import dependency, the government has provided tax incentives and customs preferences for domestic manufacturers.

- **Major Players:** Companies such as *Akfa Lighting*, *Royal*, and various enterprises under the *Uzeltechsanoat* Association have established full-cycle assembly lines. According to the Association "Uzeltechsanoat" [9], localized brands now compete effectively with international giants by offering localized warranties and lower price points.

- **Innovation in Production:** Local manufacturers have invested heavily in R&D to adapt products to the specific climatic conditions and voltage fluctuations of the region. [10]

### **Technological Trends: Smart and Solar Lighting**

The prospects of the market are inextricably linked to two technological frontiers:

1. Smart Lighting: As Tashkent and Samarkand adopt "Smart City" concepts, the demand for Automated Lighting Control Systems (ALCS) is rising. These systems utilize motion sensors and remote dimming to reduce electricity consumption by an additional 30-40%. [11]

2. Solar-Powered Solutions: Given Uzbekistan's high solar insolation (up to 300 sunny days a year), there is a significant push for autonomous solar street lighting, particularly along national highways and in remote rural areas. [12]

### **Challenges and Constraints**

Despite the positive trajectory, several barriers remain. The market is still navigating issues with counterfeit products and a reliance on imported semiconductor components. Furthermore, the efficiency of public lighting remains a priority for international financial institutions supporting the country's energy reforms. [13]

### **Conclusion and Future Prospects**

The electric lighting products market in Uzbekistan is poised for a projected annual growth rate of 10-15% over the next decade. The future of the industry will be defined by the "Internet of Lights" (IoL), where lighting fixtures serve as nodes in a broader digital infrastructure. For investors and manufacturers, the strategic focus should shift from simple assembly to the production of high-tech semiconductor components and the development of intelligent software for energy management. [14]

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