

# Formation And Early Development Stages Of The Electric Power System In The Surkhan Oasis (1914–1945)

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**Abstract:** This article analyzes, based on historical sources, the formation and development stages of the electric power system in the Surkhan Oasis during the period of 1914-1945. It examines the early electrification processes in the region, their impact on economic and social life, as well as the role of state policy and local initiatives in the establishment of electrical networks. The study also scientifically substantiates the challenges encountered during the formation of the electric power system, the available technical capabilities, the gradual changes in infrastructure development, and their influence on the industrialization and urbanization of the region.

**Keywords:** Surkhan Oasis, electric power system, electrification, infrastructure, industrialization, social development, energy policy, historical stages, electrical networks, 1914-1945.

**Introduction:** In the context of modern globalization and integration processes, the role of the fuel and energy complex in ensuring the stable functioning of the economy is increasingly significant. The continuous growth in the demand for electricity and fuel products in the social life of the world's population necessitates prioritizing scientific research aimed at developing innovative and infrastructural mechanisms to ensure the sustainable development of this complex. As part of the new development strategy being implemented in New Uzbekistan, economic reforms are facilitating the modernization of the fuel industry according to international standards, the identification of new deposits and renewable energy sources such as wind, solar, and hydroelectric power, the substantial improvement of fuel quality, energy saving, and the enhancement of export potential. These reforms are driving structural changes within the country's industrial production system and opening broad prospects for modern industrial development. In particular, to ensure uninterrupted electricity supply to the economy under the conditions of New Uzbekistan, active implementation of "Green Economy" technologies across all sectors, ensuring the stable operation of Uzbekistan's energy system in coordination with neighboring countries' energy systems, reducing losses in industrial sectors,

improving the efficiency of resource utilization, and expanding the use of renewable energy sources in housing and communal services, social infrastructure, and other sectors to increase energy efficiency are being actively pursued[1].

## METHODS

During the years of independence, research on the history of the fuel and energy industry in Uzbekistan, particularly related to the history of Surxondaryo region, has been actively conducted, and numerous scientific works have been published [2]. This section can include studies by A. Khamidov, A. Mavlonov, S. Tursunov, E. Qobulov, A. Tokhtayev, G. Asanov, M. Nabikhonov, I. Safarov, E. Akhmedov, B. Rakhimov, among others. In addition, several studies on the history of the fuel and energy complex have been published in periodical press. For example, X. Raupov's article examines the history of the inventive and rationalization movement among workers in Uzbekistan; J. Ergasheva's article discusses the state of the gas industry in the region; M. Khayrullaev's articles explore the role of the oil and gas industry in the economy; Sh. Qodirov's article focuses on Boysun coal; and A. Qodirov published a series of articles on a new gas field [3].

The information presented in the article is based on

comparative-historical analysis, oral history, chronological consistency, and a regional approach.

## RESULTS AND DISCUSSION

The energy sector is considered the “lifeblood” of the economy and, more broadly, of development. Therefore, the development of this sector is of utmost importance. The main part of the costs for electricity generation consists of natural gas, fuel oil, and coal. Currently, this share amounts to 43 percent, and given the rising prices of these resources on the global market, their significance is further increased. In 2020, there were 49 organizations in the country’s energy system, with 86 percent of electricity produced by thermal power plants. These thermal power plants consume 17 billion cubic meters of natural gas annually, whereas the same amount of gas could be redirected to value-added processes such as synthetic fuel or polypropylene production [4]. This, in turn, could also address social issues, including employment and environmental protection.

The first step in Uzbekistan’s energy system was taken in 1909 when a 135 kW diesel power station was launched along Dizelnaya Street in Tashkent to supply a tram line. By 1913, electricity began to be supplied to the population, and the first 2 km distribution network was laid.

Energy forms the foundation of the national economy, serving as the backbone of both economic and technological development. In 1919, Uzbekistan’s energy system, consisting of 37 thermal and hydroelectric power stations with a total installed capacity of 11.5 million kWh, had the potential to generate over 55 billion kWh annually. By 1998, the total length of electrical networks of all voltage levels in Uzbekistan reached 228,000 km [5].

In the 1920s and 1930s, power plants were actively constructed throughout the country, including in the Surxondaryo region. Surxondaryo, located in the southernmost part of Uzbekistan and Central Asia, occupies a significant place in the political, administrative, economic, and social life of the country. It has been recognized as one of the five economic regions established within Uzbekistan [6, 34].

The administrative composition of Surxondaryo has changed over time. At the beginning of the 20th century, the area was under the jurisdiction of the Bukhara Emirate. Initially, it was one of the regions formed in 1927 within the Uzbek SSR. Later, it became the “Surxondaryo District” within Bukhara Province. Only on March 6, 1941, by the decree of the Supreme Soviet of the Uzbek SSR, Surxondaryo was re-established as a province.

The economic and social development of the region has been strongly influenced by cross-border connections. In particular, trade, technical, and economic relations with more than 20 Asian and European countries through the Amu Darya port and rail and road bridges with Afghanistan, as well as communication links with Tajikistan via the Termiz-Dushanbe railway and roads, have had a profound impact on the region’s socio-economic development.

Industrial electrification in Surxondaryo began in the early 20th century, as the development of industries such as cotton cleaning, oil production, sericulture, tailoring, winemaking, fruit canning, and agricultural machinery and mineral fertilizer production required significant amounts of electricity.

According to a report presented at the session of the Central Executive Committee of the People’s Commissars, by the end of October, there were 20 cotton-cleaning plants in Turkestan; this number increased to 23 in 1923-1924, 36 in 1924-1925, and 49 in 1925-1926 [7,15].

At the beginning of industrialization in Uzbekistan, there were no developed modern industrial enterprises, and even existing enterprises were technically underdeveloped. There was a severe shortage of engineers, technicians, and skilled workers familiar with modern technology, which delayed economic recovery by seven to eight years. Uzbekistan’s industry and agriculture were gradually developed by training industrial personnel from among the local population. New branches of industry, especially in heavy industry, began to emerge, requiring highly skilled specialists. Great attention was paid to training local professionals, which was of particular importance in the Uzbek context.

In 1932, the Qumqo’rg’on canal was constructed and commissioned. In 1943, the “Qumqo’rg’on-1” hydroelectric power station (HPP) was built and put into operation in the area of the present-day “Saykhon” collective farm (kolkhoz) in Qumqo’rg’on district. The construction of “Qumqo’rg’on-2” HPP, near the current “Alpomish” park in Qumqo’rg’on city, was halted before completion because the Nurek HPP electricity had already reached the villages. The construction of the first “Qumqo’rg’on” HPP brought unprecedented light to local households[8, 105].

In 1940, Nikolay Pavlovich Leskov began his labor activity as an electrician and demonstrated courage on the war fronts from 1941 to 1945, for which he was awarded the Order of the Red Star. Dyakonov Nikolay Ivanovich served in the border troops from 1936, rising from a simple soldier to lieutenant colonel, participating in the liberation of Czechoslovakia,

Hungary, and Romania. He received multiple orders and medals and later worked for many years as the personnel assistant at the Surxondaryo electric networks company [9].

Automatist Anvar Qurbonov was drafted into the Soviet Army in 1944 and participated in the liberation of Warsaw and Berlin on the First Belorussian Front. He was awarded the "For Combat Service" and "For Victory over Germany" medals. After his discharge in 1950, he worked for many years as an electrical fitter in Termiz city's electric networks [10].

After the establishment of Surxondaryo province on March 6, 1941, a new era began for the provincial electricity network personnel. Before World War II, they contributed to supplying electricity to workers and industrial and agricultural enterprises in the region [11, 19].

On June 26, 1941, a bureau of the Party Committee was held in Termiz city, where the issue of "Rebuilding industry and transport for wartime" was discussed. Tasks were set for party, Soviet, and public organizations, as well as enterprise managers, emphasizing that all industrial and transport work should serve the front and labor discipline be strengthened [12, 13].

During 1942–1943, the relocation of nearly one hundred industrial enterprises to Uzbekistan necessitated the construction of many new power plants. Around ten relocated industrial enterprises, including Pavlograd, Chertkov, Volokopalskiy, and Chernyanskiy in Denov district, were supplied with additional diesel power stations in Termiz, Denov, Sharg'un, and Sherobod.

## CONCLUSION

The formation of the electric power system in the Surxondaryo region was carried out gradually between 1914 and 1945, and this process played a significant role in the region's industrialization, socio-economic life, and cultural development. Although the initial electrification initiatives were on a small scale, by the 1930s and 1940s, electrical networks were established in several areas of the region.

As the southernmost region of Uzbekistan, Surxondaryo occupies a strategically important position economically, geographically, and politically. The development of the electric power system here accelerated the economic growth of the entire southern region.

The energy infrastructure formed during this period laid the foundation for the region's subsequent transformation into a major industrial center, as well as the modernization of agricultural and transport

systems. Thus, the electrification works carried out in Surxondaryo between 1914 and 1945 represent a significant stage in the history of Uzbekistan's energy sector.

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