

Who owns OJSC national electric grid of Kyrgyzstan?

OJSC National Electric Grid of Kyrgyzstan (NEGK) is the owner and operator of more than 10,000 km of power transmission lines of 110 kV and higher, as well as 190 substations with primary voltages of 500, 220 or 110 kV, in the Kyrgyz Republic. OJSC NEGK is 93 per cent owned by the state and is organised as an open joint stock company.

What are smart grid technologies?

Smart grid technologies are broad and cover many systems and applications today, both as developed and developing technologies. They include smart meters, SCADA and FACTS, PMU, V2G among others.

How has the smart grid changed the energy industry?

Since its inception, the smart grid concept has revolutionized power systems worldwide. Concurrently, the energy industry has witnessed significant changes, such as the clean energy transition, digitalization, and the artificial intelligence (AI) revolution. These changes have profoundly impacted power systems technology and energy consumers.

How blockchain technology makes the grid smart?

The grid is made smart by the integration of blockchain technology and the traditional electric grid. The blockchain technology facilitates the decentralisation of the grid network operations making central authority in grid control, distribution, and management of the electricity system unnecessary.

Are power systems moving beyond the smart grid?

In this context, power systems worldwide have moved beyond the smart grid, transforming in terms of technology, physical structure, and business model.

Why is smartening the electricity grid important?

Therefore, smartening the electricity grid will reduce transmission and distribution losses leading to efficiency and reduced avoidable generation as well as related emissions and environmental pollution. Since electricity consumption by end users varies over the day, consumption has direct implications on electricity losses.

# SMART GRID POWER DISTRIBUTION SYSTEM KYRGYZSTAN



Local Context and Background: There are 4 electricity distribution companies (DISCOs) serving customers across the seven oblasts that comprise the Kyrgyz Republic. Reducing losses and ???



The US Department of Energy defines an SG as a grid that applies digital technology to improve power system reliability, efficiency, and security right from power generation, through the delivery systems to power consumers with the growing use of distributed generation and energy storage resources (Bhattarai et al. Citation 2022; Ourahou et al



Built by a Chinese company, the Datka-Kemin 500kV power transmission and transformation project has provided the Kyrgyz people with more convenient access to electricity and helped the country gain highly sought-after energy independence.

# SMART GRID POWER DISTRIBUTION SYSTEM KYRGYZSTAN



A decentralized solar energy system brings power sources closer to end users by utilizing rooftops, backyards, and even parking lots for solar panel installations. This approach can reduce transmission and distribution inefficiencies and related economic and environmental costs, and most importantly it can unlock a tremendous potential of green



smart electricity meters, related software and materials required for rehabilitation of low voltage distribution lines in the Kyrgyz Republic. The Project is expected to improve reliability, service quality, demand side management and facilitate integration of consumers in to the distribution system.



The distribution management systems for smart grid include several functions for manipulating legacy voltage control devices and distributed energy resources through closed-loop volt/var control, leading to wide-area regulation of voltages in the presence of ???

# SMART GRID POWER DISTRIBUTION SYSTEM KYRGYZSTAN



As stated by the EBRD, the project consists of the provision of a sovereign loan of up to EUR 13.5 million to the Kyrgyz Republic to finance the procurement and installation of household smart electricity meters in the Osh, Jalal-Abad, Tupe and Chuy regions of the Kyrgyz Republic.



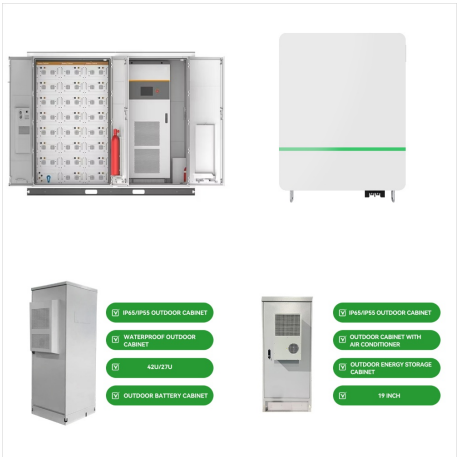
Local Context and Background: There are 4 electricity distribution companies (DISCOs) serving customers across the seven oblasts that comprise the Kyrgyz Republic. Reducing losses and increasing cost recovery have been priorities for the DISCOs in Kyrgyzstan over the past decade. Smart meters installations have featured heavily in the companies"



In this context, power systems worldwide have moved beyond the smart grid, transforming in terms of technology, physical tructure, and business model. Therefore, this proceeding aims to summarize current developments, recognize new trends, and collect experiences worldwide, focusing on distribution system digitalization and marketization



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The CASA-1000 Project is designed to connect the electric power systems of two Central Asian countries ??? Kyrgyzstan and Tajikistan ??? with two South Asian countries ??? Afghanistan and Pakistan ??? and develop the arrangements for electricity trade between them compliant with international standards.



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