

## Kazakhstan electricity market

Electricity in Kazakhstan is generated by 222 power plants of various forms of ownership. As on 01 January 2024 the total installed capacity of power plants in Kazakhstan was 24641,9 MW and available capacity is 20428,4 MW. The power plants are branched into power plants of national importance, power plants of industrial importance and those of regional importance.

The power plants of regional importance are the CHPPs integrated with the territories, supplying electricity through the networks of regional electricity network companies and power transmission organisations and heat to the towns nearby.

The backbone grid in Kazakhstan UPS is the National Power Grid (NPG) that provides electric connections between the regions of the country and with the power systems of the neighbouring countries (the Russian Federation, the Kyrgyz Republic and the Republic of Uzbekistan) and deliver electricity from the power plants to the wholesale consumers. KEGOC owns 220 kV and above substations, switchgears, interregional and/or interstate transmission lines being a part of the NPG including lines used for connection of power plants.

Regional power networks provide electrical connections within regions and power transmission to retail consumers. Electric networks of regional level belong to and are being operated by the Regional Electric Network Companies (REC).

The power transmission companies provide contract-based electricity transmission services using their own or managed (rent, lease, trust management and other types of use) electric networks for the wholesale and retail consumers or power supplying companies.

The electricity supply sector of the electricity market of Kazakhstan consists of energy supplying organisations (ESOs), which purchase electricity from a single electricity purchaser and (or) from net consumers and then sell it to end retail consumers. A part of ESOs fulfils the functions of "guaranteeing suppliers" of electricity.

Kazakhstan's wholesale electricity and capacity market is made up of the wholesale electricity market, the balancing electricity market, the capacity market, and the market for system and ancillary services.

The market for system and auxiliary services operates on the basis of both the purchase of auxiliary services from wholesale electricity market entities and the provision of system services to wholesale electricity market entities by the system operator to ensure the reliability of the Republic of Kazakhstan's UES and the quality of electricity established by national standards.

To meet demand for electric capacity, the electric capacity market attracts investments to maintain existing

and commission new electric capacities in the unified power system (UPS) of Kazakhstan.

Electricity purchase and sale transactions between energy producing organizations and a single purchaser, as well as between a single purchaser and digital miners in an electronic trading system, are examples of centralized electricity trading.

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