Energy

Ensuring energy security

Samruk-Energy JSC, the largest multi-profile energy holding, oeprates the entire production chain, starting from coal mining and ending with electricity sales. Samruk-Energy's share of Kazakhstan's installed capacity is 29%, and 38.1% of coal production.

KEY PERFORMANCE RESULTS 2024

Indicator	2023	2024
Production figures:		
Electricity generation, million kWh	35,330	39,772
Capacity sales, MW	2,707	3,594
Heat production, million Gcal	5.76	6.7
Electricity transmission, million kWh	8,687	9,268
Coal sales, million tonnes	42.5	33.7
Financial indicators[17], billion KZT:		
Revenue	444.96	573.5
Dividends	2	24.8
Net profit	43.08	112.5
Operating profit	92.8	173.0
Net debt	228	278.1
Taxes paid	54.1	81.4
Sustainable development indicators:		
Greenhouse gas emissions, '000 tonnes CO_2-eq.	31,877	30,884
Accidents	10	12
Fatal accidents	2	3

In 2024, Samruk-Energy Group of companies exceeded the targets in all areas of activity.

In 2024, the total electricity generation by the Samruk-Energy JSC Group of companies reached 39,772 million kWh, which is 12.6% higher compared to 2023.

The increase in revenues made it possible to significantly expand repairs of main and auxiliary equipment.

On 23 December 2024, the commissioning act was signed, which enabled the plant to operate at full capacity in an eight-unit mode for the first time in the last 30 years.

A key event was the commissioning of Unit 1 at Ekibastuz GRES-1.

INSTALLED CAPACITY

7,345

MW

The rehabilitation of Unit 1 increased the plant's installed capacity by 500 MW, which significantly improved its performance and strengthened the region's energy security.

In 2024, the repairs were carried out in full, allowing for a successful 2024–2025 heating season.

[17] Financial results for 2023 are presented without restatement to reflect the acquisition of entities under common control of AES Shulbinsk HPP LLP and AES Ust-Kamenogorsk HPP LLP.

CONSTRUCTION OF NEW GENERATION FACILITIES

To ensure energy security and the growing demand for electricity, the country plans to commission 26 GW of new capacity by 2035, of which Samruk-Energy's share is 55%.

By 2032, 14.3 GW of new generating facilities are planned, of which 2.7 GW of generation is expected to be commissioned in the next 3 years.

GAS GENERATION PROJECTS

The project to convert Almaty CHPP-2 and CHPP-3 is ongoing.

As part of the project to convert Almaty CHPP-2 to gas, design and estimate documentation has been developed. Construction and installation works have been carried out since 2024. The EPC contractor is the Chinese Consortium of Power China and Dongfang Electric.

On conversion of Almaty CHPP-3 to gas in February 2024, EPC-contractor signed a contract with Ansaldo Energia (Italy) for supply of 2 gas turbine units. Engineering and survey works within the framework of development of design and estimate documentation of the project were completed, dismantling and construction works are in progress.

The construction of CHPP-2 and CHPP-3 is scheduled to be completed in 2026.

In the Kyzylorda region it is planned to build a combined cycle power plant with a capacity of 1,100 MW together with Power International Holding (Qatar). Conclusion of the EPC contract and completion of organisational arrangements for financing are planned for the end of 2025. The start of construction and installation works is planned for 2026, completion and commissioning of the facility, at the end of 2028.

COAL-FIRED GENERATION PROJECTS

Expansion and reconstruction of the Ekibastuz GRES-2 is underway, including the installation of Units 3 and 4.

As part of the Ekibastuz GRES-2 expansion and reconstruction project with the installation of units 3 and 4, a favourable opinion was received from Gosexpertiza Expert Review Board on the project feasibility study for the project. In August 2024, an EPC contract was signed and in September 2024, an investment agreement was signed with the Ministry of Energy of the Republic of Kazakhstan. Under the terms of the EPC contract, commissioning is set for 2028 and 2030, respectively.

In addition, feasibility studies are being finalised for the CHPP projects in Kokshetau and Semey. In parallel, design and estimate documentation for the CHPP in Kokshetau is being developed. Commissioning of CHPP in Kokshetau is scheduled for 2028, in Semey and Ust-Kamenogorsk – for 2029.

An innovative coal-fired plant, GRES-3, is planned to be constructed on a site adjacent to the Ekibastuz GRES-2 plant. The project is considering partnerships with several potential overseas investors.

HYDROPOWER CONSTRUCTION PROJECTS

Together with Qatari investor Nebras Power, the 300 MW Semey HPP project is being realised. The station will serve as a counter-regulator for the Shulbinsk HPP, improving its manoeuvrability. The project will create a new reservoir on the Irtysh River. The pre-feasibility study for the project has been finalised.

The project for the construction of the second stage of the Shulbinsk HPP involves increasing the dam at the existing HPP and expanding the capacity from 702 to 1,050 MW.

A project for a hydro-storage station is also being developed. The project involves the creation of two reservoirs to balance the energy system. The principle of operation consists in the possibility of water conservation due to two reservoirs, after water is released from the upper reservoir and electricity is generated, the equipment at the lower reservoir is switched to reverse mode and works as a pump for water reinjection.

RENEWABLE ENERGY PROJECTS

Large-scale projects are being implemented in partnership with Total Eren, Masdar, Energy China, CNPC, and CPIH.

To achieve the goals of decarbonisation of the country's economy, Samruk-Energy implements large-scale RES projects in partnership with international leaders within the framework of concluded Intergovernmental Agreements.

Large-scale projects are being implemented with Total Eren (France) and Masdar (United Arab Emirates), with whom it is planned to sign EPC contracts and finalise work to organise financing in 2025.

On projects in co-operation with partners, it is also planned to conclude EPC contracts for the construction of a wind farm in Pavlodar region – China Power International Holding Ltd and a solar plant in Turkestan region – Energy China.

Design is underway for wind farms in Karaganda region – Power China and Energy China, Ulytau region – CNPC and Almaty region – Power China.

Thus, from 2027 to 2030, 6.0 GW of RES facilities, including hydropower plants, are planned to be commissioned.

BOGATYR KOMIR

Bogatyr Komir LLP is a leading coal mining company in the field of open-pit coal mining. The Company's total commercial reserves are about 2.5 billion tonnes of coal.

Bogatyr Komir LLP accounts for 66% of the coal produced in the Ekibastuz basin and 38% of total Kazakhstani production.

Samruk-Energy JSC is a reliable energy partner for the largest thermal power plants in Kazakhstan and Russia, including Reftinskaya GRES, and provides jobs for more than 6,300 people.

In 2024, 42.7 million tonnes of coal was produced. Coal sales amounted to 43 million tonnes, of which 33.7 million tonnes were sold to Kazakhstan's enterprises and 9.3 million tonnes were exported to the Russian Federation.

SUSTAINABLE DEVELOPMENT

The company aims to contribute to the structure of the national economy by promoting renewable energy, maximising the reduction of air emissions and improving the ecosystem.

The Company approved the Road Map for improvement of the sustainable development management system of Samruk-Energy JSC for 2024–2025, which includes measures aimed at improving activities in environmental and social aspects, as well as in corporate governance issues, which were formed based on the results of independent diagnostics of the Company's corporate governance and the results of ESG processes assessment by leading international rating agencies.

In 2024, ESG rating of Samruk-Energy JSC was 3 with a total score of 52 (at the level of 2023) from the international rating agency Sustainable Fitch.

The Company has also been assigned a "D" rating Climate Change and a "C" rating for Water Security under the CDP ("Carbon Disclosure Project") climate rating.

PLANS FOR 2025

In 2025, a number of major investment projects with international partners from France, UAE, China, and Russia (4.6 GW WPP, 1.4 GW SES) will continue to be implemented.

Implementation of projects to convert Almaty CHPPs to gas will continue. In 2025, installation of the main equipment will be carried out and commissioning of the water heating boilers is scheduled for October. The construction is planned to be fully completed within the approved timeframe in 2026. Dismantling and construction works will be carried out at CHPP-3 in 2025.

For the construction project of power units 3 and 4 at Ekibastuz GRES-2, the company will work on financing in 2025. By the end of 2025, project documentation will be completed.

For CHPP projects, the Company plans to finalise the feasibility studies for Kokshetau and Semey in 2025, and to conclude a contract for the development of design and estimate documentation for the CHPP in Kokshetau. For the CHPPs in Semey and Ust-Kamenogorsk, contracts for the development of design and estimate documentation will be concluded in 2025.

KEY PERFORMANCE RESULTS 2024

Indicator	2023	2024
Production figures:		
Electricity transmission services, billion kWh	38.2	18.96
NPG utilisation services, billion kWh	36.0	74.93
Technical dispatching services, billion kWh	106.28	110.89
Balancing services, billion kWh	205.41	210.3
Financial indicators, billion KZT:		
Revenue	252.14	319.9
Dividends	33.3	44.5
Net profit	43.4	59.5
Costs	181.4	228.3
Operating profit	56.6	79.9
Net debt	83.7	62.1
Taxes paid	40.5	48.0
Sustainable development indicators:		
Greenhouse gas emissions, '000 tonnes CO_2-eq (coverage area 1+2)	2,758.8	2,366.7
Number of casualties in accidents[18]	1	0
Fatal accidents	0	0

[18] Fixing from the date of the accident.

In the reporting period, KEGOC, as a system operator, continued to ensure quality operation of the Unified Energy System of Kazakhstan and reliable electricity supply to the country's consumers. Electricity consumption in the country in 2024 totalled 120 billion kWh, which is 4.3% higher than in 2023. This boosted the Company's net profit to KZT 59.5 billion, up by KZT 16.1 billion or 37.1% year on year.

INVESTMENT ACTIVITIES

One of the key events of 2024 was the launch of the project to link the West with the Unified Energy System of Kazakhstan.

In 2024, the Company started implementing the investment project Unification of the energy system of Western Kazakhstan with the Unified Energy System of the country. Construction of power grid facilities, the purpose of which is to construct a second 500 kV line from RP Karabatan to PS Ulke with a length of 604.3 km to unite the Western Zone with the main part of the Unified Energy System of Kazakhstan.

In addition, in 2024, a loan agreement was signed between KEGOC and the Asian Development Bank to finance the project "Strengthening of the power grid of the Southern Zone of the Unified Energy System of Kazakhstan. Construction of power grid facilities".

The project is aimed at improving the reliability of electricity supply to consumers in the Southern Energy Zone by strengthening the 500 kV power grids of Zhambyl and Turkestan regions, including construction of the 500 kV Shu-Zhambyl-Shymkent overhead line with corresponding expansion of 3 electrical substations.

NEW TECHNOLOGIES

As measures to create an intelligent energy system Smart Grid, the Company is implementing projects to upgrade the SCADA/EMS system and implement a monitoring system based on synchronised WAMS technologies (2nd stage), which allow to improve the efficiency of dispatch control and observability of operation modes of the Unified Energy System of the country, as well as to ensure monitoring of stability reserves and assessment of the state of the Unified Energy System of Kazakhstan.

In 2024, the implementation of the Pilot Project "Introduction of Electricity Storage Systems in the UES of Kazakhstan" was continued to study the impact of electricity storage systems on the regulation of the Unified Energy System during the integration of RES with China Power International Development Limited, China Power International Holding Limited and the Kazakhstan Renewable Energy Association. Under the Pilot Project, it is planned to install an electricity storage system with a capacity of 3.45 MW and a capacity of 7.72 MWh near the 500 kV Akmola substation.

Also in 2024, the work on the project "Development of algorithms in the ARCHM CA for controlling electricity storage systems" was finalised. The aim of the project is to improve the reliability of the National Electric Grid of Kazakhstan when integrating RES through the introduction of electricity storage systems.

SUSTAINABLE DEVELOPMENT

Due to the Company's efforts to integrate ESG factors into its strategy and business processes, as well as its commitment to the principles of corporate governance, social responsibility and business ethics, and the quality of information disclosure, according to the results of an independent assessment for 2024, the rating agency S&P Global raised KEGOC's ESG rating to 55 points out of 100, which is 4 points higher than in 2023 (51 points) and the level of information disclosure was assessed as "very high".

PLANS FOR 2025

Further plans envisage the implementation of KEGOCs investment portfolio for the development of the National Electric Grid, including the unification of the Western energy system with the unified electric power system of Kazakhstan, strengthening of the electric grid of the Southern zone of the Unified Energy System of Kazakhstan, as well as the continuation of the reconstruction of the Company's electric grids covering all regions of presence.

KEGOC will continue to create the enabling environment for the development of generating capacities, including baseload and load-following capacities, take part in the development and discussion of a new model of the electricity market, preparation of legal acts on connection of wholesale market entities to the National Electric Grid of Kazakhstan.

Low-carbon energy sources

Kazakhstan Nuclear Power Plants LLP was established to develop feasibility studies and detailed plans for the construction of nuclear power plants (hereinafter – NPPs) in Kazakhstan, including the development of feasibility studies and a full package of design documentation, as well as to coordinate the NPP construction process.

CURRENT STATUS OF NPP CONSTRUCTION PROJECT IMPLEMENTATION

In 2024, KNPP LLP has taken significant steps in the implementation of the NPP construction project with a capacity of up to 2.4 GW.

Internally, 48 meetings were organised and attended with representatives of foreign organisations and companies to discuss co-operation on the NPP project.

In 2024, seminars were held on the assessment and characteristics of the NPP construction site, nuclear power development and resource base, and IAEA training activities on nuclear power were organised.

On 6 October 2024, 71.12% of citizens supported the construction of the station in a referendum.

INTERNATIONAL PARTNERSHIP

Negotiations and meetings were held with representatives of reactor technology supplier countries, including Korean companies and organisations working in the field of nuclear energy, French ministers, the management of Framatome, EDF, Assystem, and the management of China National Nuclear Corporation. The Saeul NPP (Korea), the IRSN crisis centre and a plant for the production of nuclear power plant equipment (France) were visited.

Additionally, negotiations were held in November 2024 with the management of Rosatom State Corporation and with the Deputy Chairman of the Board of CNNC.

The Ministry of Energy together with KNPP LLP developed an in-depth questionnaire containing 205 questions in order to obtain enhanced information on the proposed reactor technologies and sent it to the shortlisted technology suppliers.

The technical specification for consulting and technical services to support pre-design works on the NPP construction project was approved.

On 30 December 2024, the Government of the Republic of Kazakhstan adopted Resolution No.1137 approving Zhambyl district of Almaty region as a site for the construction of a nuclear power plant.

PLANS FOR 2025

In 2025, the project to build a nuclear power plant in Kazakhstan reaches key stages of preparation:

- Involvement of technical, financial and legal advisor.
- It is planned to identify a vendor for the construction of NPPs in Kazakhstan.
- Based on the results of technology selection, it is planned to conclude an Intergovernmental Agreement regulating the terms and conditions of reactor technology supply and project implementation.
- Organising and conducting awareness-raising activities on the construction of NPPs in Kazakhstan in 2025.