Investment activities

IN 2023, WE CONTINUED TO WORK ON THE IMPLEMENTATION OF INVESTMENT PROJECTS AIMED AT IMPROVING THE RELIABILITY OF ENERGY SUPPLY, ENSURING A LOW-CARBON DEVELOPMENT STRATEGY, AND DEVELOPING THE RES SECTOR, AND STRENGTHENING THE ENERGY SECURITY AND ENERGY INDEPENDENCE OF KAZAKHSTAN.

In assessing ESG, we are guided by the provisions of the Corporate Governance Code and the best international standards recognized by the international community, such as the UN Sustainable Development Goals, the Global Reporting Initiative, the standards of the International Finance Corporation (Industry Foundation Classes, IFC) and the European Bank for Reconstruction and Development, the UN Principles for Responsible Investment, etc.

Priorities of investment activity of Samruk-Energy JSC

The priority of the investment activity of the Samruk-Energy Group of Companies is the commercial expediency of investments and their focus on the creation of long-term value, the introduction of new technologies, and the creation of quality jobs.

The Company's approach in the field of investment activity is based on the principles of responsible investment, taking into account environmental, social and managerial ESG factors in investment decisions, for effective risk management and the formation of long-term sustainability.

We have implemented the best practices of investment activity management:

- project and activity portfolio management — significantly improved the allocation of financial resources to increase the share of profitable projects in the total portfolio of projects and activities;
- project management — raised the level of control at the stage of investment projects realization (budgets, timelines).

Key principles of investment activity of Samruk-Energy JSC:

- incorporation of ESG parameters into the investment analysis and decision-making process;
- compliance with the legislation of the Republic of Kazakhstan and proper use of confidential information;
- preparation of annual reports, including financial reports and sustainable development reports, including ESG factors, in accordance with generally recognized international or national auditing standards;
- a formalized risk identification, assessment, and management system in place.

In line with ESG principles, our main benefits are:

- informed investment decisions through understanding important ESG factors, relevant potential liabilities, costs and their impact on financial performance, and potential opportunities for value creation;
- minimizing exposure to reputational or legal risks;
- ensuring that adequate systems are in place to assess and monitor the effectiveness of the Fund's and portfolio companies' ESG compliance, and compliance with applicable ESG requirements and management of associated investment risks;
- forming a framework for ongoing engagement with companies to discuss, assess and manage ESG risks and the extent of ESG impacts and to identify and capitalize on opportunities;
- demonstrating appropriate consideration and management of relevant ESG factors for relevant stakeholders.

Based on the results of the analysis, Samruk-Energy JSC formed a list of capital projects, including “green energy transition projects”, which are included in the Company's Development Strategy for 2022-2031 (more details on the website of Samruk-Energy JSC: www.samruk-energy.kz).

The Investment Programs are financed by the Company's own funds, borrowed financing from international financial organizations and second-tier banks of the Republic of Kazakhstan.

Implementation of the Investment Program of Samruk-Energy JSC in 2023, by development method, million tenge (excluding VAT)*

			Fact	Forecast	Прогноз
CAPEX by area	2021	2022	2023	2024	2025
Volume of capital investments, Total	61,698	100,580	**132,146**	272,700	754,354
Investment projects	25,206	58,372	**80,393**	150,262	635,550
Maintenance of production assets	35,198	41,052	**49,555**	117,039	117,674
Maintenance of administrative assets	1,267	1,157	**2,198**	3,591	416
Other investments	26	0	**0**	1,809	713

*The development method includes data on capital expenditures confirmed by primary accounting documents (acts of work performed, services rendered, delivery notes confirming delivery of materials, equipment, etc.), invoices and primary accounting documents on acceptance and transfer of goods, works and services. At the same time, materials are recognised for development at the moment of writing off the cost of inventories for construction and installation works. This method excludes advance payments and the results of revaluation of property, plant and equipment and intangible assets.

Capital investments to maintain production assets are aimed at carrying out repairs of main and auxiliary equipment, as well as the acquisition of fixed assets of a production nature to ensure the reliability of power plants.

In 2023, the volume of foreign investments attracted by the Company for the implementation of Investment projects amounted to KZT 3.29 billion, including VAT (excluding the shares of Bogatyr-Komir LLP — 50%).

Investment projects implemented in 2023

1. Project "Transition to cyclic-flow technology of coal mining, transportation, averaging and loading at Bogatyr open pit mine (CFT)

Project Description and Purpose: Replacement of the main worn-out means of coal shipment, crushing and transportation, as well as phased transition of Bogatyr open pit mine to the flow-through technology of coal delivery by conveyor transport to surface averaging warehouses, with its subsequent loading at surface loading complexes is aimed at increasing the production capacity of the enterprise.

Results of 2023:

- The equipment supplier Thyssen Krupp AG (Germany) delivered 100% of the equipment to the construction site;
- Construction and installation works were completed;
- Start-up and adjustment works of the complex were completed;
- Currently, the CFT complex ships 40-45 thousand tons of coal daily;
- The act of acceptance of the facility into operation, dated December 19, 2023, was registered by the Ekibastuz Department of registration and land cadastre of the branch Government for Citizens NJSC for Pavlodar region on December 22, 2023.

2. Project "Construction of 110/10kV substation "Kokozek" with connection to the 110kV switchgear-110kV of the 220kV substation "Kaskelen" of Karasay district of Almaty region"

Project Description and Purpose: Construction of a new 110/10-10kV substation "Kokozek" aims to urgently address the deficit of free transformer capacity, and enable the implementation of investment projects in the Industrial Zone "Boraldai."The substation will provide electricity to the Industrial Zone in Karasai district, where there is a deficit of free capacity. In addition, the new substation will provide reliable and stable power supply to small and medium-sized businesses and expand opportunities for the construction of necessary social and cultural facilities in the region.

Implementation of the Project enables the connection of new consumers with an installed capacity of 106 MVA.

Results of 2023:

- Installation of equipment at the 110kV switchgear at the Kokozek substation was completed;
- 102 110-kV overhead line supports were installed;
- The Kokozek substation became operational on October 9, 2023.

Investment projects of Samruk-Energy JSC

In the reporting period, the Company continued to implement investment projects aimed at improving the reliability of energy supply to the industrial and public utility sectors of the country, ensuring a low-carbon development strategy, support, development and integration of RES, increasing export potential, energy security and energy independence of Kazakhstan.

1. Project "Rehabilitation of Power Unit No.1 with installation of new ESPs"

Project Description and Purpose: Construction of a power unit with installed capacity of 500 MW and installation of new ESPs will increase the installed capacity of EGRES-1 up to 4,000 MW.

Results of 2023:

- Dismantling of main and auxiliary equipment of the power unit and ash collecting plant.
- Delivery of boiler, turbine and their auxiliary equipment, generator, transformers, electrical equipment.
- Total volume of work actually performed — 99.16%.

Implementation period: November 2024.

2. Project "Expansion and reconstruction of EGRES-2 with installation of power unit No.3"

Project Description and Purpose: Expansion and reconstruction of EGRES-2 and construction of power unit No.3 will improve the reliability of energy supply to all sectors of the economy and population and increase the export potential of the country.

Results of 2023:

- On December 29, 2023, the Feasibility Study of the project uploaded to the portal of RSE Gosexpertiza.
- On January 31, 2024, the ROI investment program submitted to the Market Council.
- On February 26, 2024, as part of the review of the application, a CCS meeting was held with the participation of independent experts of the Market Council, and as a result of the review, the investment program was approved. Taking into account the approval received, it is expected to send materials to the Ministry of Energy of the Republic of Kazakhstan for further conclusion of the investment agreement for return of investments.

Implementation period: 2006–2027.

3. Project "Modernization of Almaty CHPP-2 with minimization of environmental impact"

Project Description and Purpose: Construction of a new plant using gas turbine technologies with an electric capacity up to 557 MW and heat capacity of 800 Gcal/h at the site of Almaty CHPP-2 will reduce the negative environmental impact of the plant on the environmental situation of Almaty city. The project is implemented within the framework of the fulfillment of the order of the President of the Republic of Kazakhstan.

Results of 2023:

- On May 31, 2023, according to the results of competitive procedures under EBRD rules, an EPC contract was concluded between APP JSC and a consortium consisting of Dongfang Electric International Corporation&Powerchina Sepco1 Electric Power Construction Co., Ltd & Powerchina Hebei Electric Power Engineering Co. Ltd.
- On June 16, 2023, the EPC Contractor signed a Slot reservation agreement with Siemens as the gas turbine supplier.
- On July 5, 2023, APP JSC made an advance payment to the EPC Contractor in the amount of EUR 16.9 million, Yuan 192.4 million and Yuan 12.3 billion. Yuan and KZT 12.3 billion, which in total amounts to KZT 32,476,483 thousand at the exchange rate of the National Bank of the Republic of Kazakhstan as of 05.07.2023. (10% of the advance payment under the EPC Contract).
- On July 10, 2023 the EPC Contractor made the payment of the first tranche in the amount of 14 million EUR and on July 31, 2023 made the payment of the second tranche in the amount of EUR 16 million to SIEMENS ENERGY (GTP — 3 pcs., generator — 3 pcs.) according to the Slot reservation agreement.
- On October 27, 2023, a contract was signed with Siemens Energy for the supply of three gas turbine units with generators.
- On November 30, 2023, an agreement was signed between the EPC Contractor and Dongfang Electric Group Dongwan Steam Turbine Co Ltd for the supply of a steam turbine and a generator.
- On December 20, 2023, an agreement was signed between the EPC-contractor and Dongfang Electric Group Boiler Ltd for supply of hot water boilers (4 pcs.) and waste heat boilers (3 pcs.).

Implementation period: 2022–2026.

4. Project "Reconstruction of Almaty CHPP-3"

Project Description and Purpose: Reconstruction of Almaty CHPP-3 with the construction of SGP with a capacity of up to 544 MW will not only partially cover the deficit of maneuvering capacities in the Southern Zone of Kazakhstan, but also provide consumers of Almaty city and Almaty region with uninterrupted supply of electricity and heat in accordance with load schedules and temperature regimes.

Results of 2023:

- On September 08, 2023, an EPC contract was concluded between APP JSC and a consortium consisting of: KBI Energy Group LLP together with Energo Spets Stroy LLP, StandardEnergo KZ LLP and STROYINDUSTRIA LLP.
- On October 24, 2023, the advance payment to the EPC Contractor in the amount of KZT 38.5 billion (15%) was made.
- November 09, 2023, the EPC Contractor signed with Ansaldo Energia. Slot reservation agreement (SRA) for the manufacture of CHPP-3 equipment with the following terms (FCA): GTP with generator for SC-1-February 2025, GTP with generator for PC-2-May 2025.
- In January 2024, it was planned to conclude contracts for the supply of main process equipment (GTP, CHP, ST).

Implementation period: 2021–2026.

5. Project "Reconstruction of CHPP-1 named after B.Orazbayev of APP JSC with construction of SGP with capacity of 200-250 MW"

Project Description and Purpose: Expansion of Almaty CHPP-1 with construction of SGP with capacity of 200-250 MW will ensure reliability of heat supply and electrification of Almaty city and Almaty region.

Results of 2023:

- In January, 2023, positive conclusion of RSE "Gosexpertiza" of the feasibility study of the project was received.
- Corporate procedures are currently underway to approve the results of the project feasibility study. Taking into account the fact that the main purpose of gasification of Almaty CHPPs is to improve the environmental situation and that CHPP-1 is already operating on gas, the option of phased construction of the plant is being considered.
- The active phase with SGP construction is planned after completion of the CHPP-2 and CHPP-3 projects in 2027.

Implementation period: 2027–2032.

6. Project "Construction of a counter-regulating HPP on the Ili River"

Project Description and Purpose: Creation of a counter-regulating reservoir in the downstream of Kapshagay HPP is designed not only to contribute to equalization of uneven weekly and daily releases of Kapshagay HPP and transfer Kapshagay HPP to the mode of covering peak loads using all available capacity in the deficit zones of the Almaty power system and the system of the Southern energy zone of Kazakhstan, but also to improve the environmental situation in the lower reaches of the Ili River.

Results of 2023:

- According to the concluded contract, KAZHIDRO LLP developed a feasibility study (FS) for the Project.
- In the developed Feasibility Study for the Project, counter-regulator sites were identified and topographic surveys were conducted, and modernization of Kapshagay HPP was considered.
- Work has started on registration of land plots for construction of the counter-regulating hydroelectric power plant on the Ili River, situation diagrams have been obtained, and applications have been submitted for obtaining a land plot selection act for further registration for APP JSC.

Implementation period: 2011–2028.

7. Project "Reconstruction of cable networks in Almaty"

Project Description and Purpose: The reconstruction of cable networks will increase the capacity of Almaty city by 30%. Almaty by 30%, as well as reduce the accident rate in the distribution networks of Alatau Zharyk Company JSC. The project is approved under the "National Project 'Sustainable Economic Growth aimed at improving the welfare of Kazakhstani'.[14]

Results of 2023:

- On April 13, 2023, the project implementation was approved by the Decision of the Management Board of Samruk-Energy JSC. Design and estimate documentation was approved for 17 objects.
- Contracts for construction and installation works were concluded.
- 222.3 km of cable lines and 97 units of transformer substations were replaced.
- For 2024, it is planned to purchase works on development of feasibility study of the project and reconstruction of cable networks for 18 objects, as well as the development of design and construction documentation for 16 objects.

Implementation period: 2022–2030.

8. Project "Reconstruction and Modernization of Cascade of HPP"

Project Description and Purpose: Reconstruction and modernization of HPP Cascade will ensure reliability and safety of the plant operation, as well as increase of the installed capacity by 7.5 MW and increase of electricity generation by 41.7 million kWh per year to supply consumers of Almaty city and Almaty region.

Results of 2023:

- Within the framework of bilateral meetings between Samruk-Energy JSC and the World Bank, an agreement was reached to provide grant funds to finance the development of the project feasibility study. AFRY Switzerland has been identified to conduct a study on the potential for the reconstruction and modernization of the HPP. Currently, the feasibility study is in the process of approval.

Implementation period: 2022–2027

[14] Order of the President of the Republic of Kazakhstan No. 670 of 7 October 2021.

New investment projects

1. Project "Construction of 1 GW wind power plant with RK energy storage system in cooperation with Total Eren"

Project Description: the project will utilize energy storage to maintain power generation within the stated forecast and therefore reduce the risk of grid instability due to intermittency of wind generation.

Results of 2023:

The project has signed:

- Intergovernmental Agreement — 11/30/2022;
- Non-binding Power Purchase Agreement (tariff 3.99 US cents/kWh) — 09.06.2023;
- Joint Venture Agreement — 01.11.2023;
- Investment Agreement — 02.12.2023.
- Capacity Delivery Scheme agreed with KEGOC on December 26, 2023.

Implementation period: 2023–2028.

2. Project "1 GW wind power plant with energy storage system in Zhambyl region in cooperation with MASDAR"

Project Description: The project will utilize energy storage, which will maintain power generation within the stated forecast and therefore reduce the risk of grid instability due to the intermittency of wind generation.

Results of 2023:

The project has signed:

- Cooperation Agreement — 09.06.2023;
- Joint Development Agreement — 02.12.2023;
- Intergovernmental Agreement — 02.12.2023.
- On August 29, 2023, a permit was obtained to conduct PSW on a land plot of 44 thousand hectares with a term until December 31, 2026 (Zhambyl Oblast). The Decree of the President of the Republic of Kazakhstan No. 670 dated October 7, 2021.
- Juru Energy was identified as the service provider for the development of the SWM. Kazselenergoproject Institute LLP (KazSep) was identified as a subcontractor.

Implementation period: 2023–2028.

3. Project "1 GW wind power plant with energy storage system in Zhetisu Oblast in cooperation with ACWA Power Company"

Project Description: the project plans to apply an energy storage, which will keep the power generation within the stated forecast and therefore reduce the risk of grid instability due to intermittency of wind generation.

Results of 2023:

The project has signed:

- Joint Development Agreement — 02.12.2023.
- ESR LLP started development of the project's capacity delivery scheme.
- Decree of the Akimat of Alakol district on allocation of land plot with the total area of 21,000 hectare for survey works was received on October 24, 2023. On December 6, 2023, an additional 3,913 hectares were allocated by the Decree of Alakol District Akimat.

Implementation period: 2023–2029.

4. Project "1 GW wind power plant with energy storage system in Zhambyl oblast jointly with China Power International Holding (CPIH)"

Project Description: the project plans to apply energy storage to the project to help maintain electricity generation within the stated forecast and therefore reduce the risk of grid instability due to intermittency of wind generation.

Results of 2023:

The project has signed:

- Joint Development Agreement — 17.10.2023.
- CPIH contracted with Electro Detail Design (EDD) to develop the power output scheme. On July 11, 2023, approval was granted for a 30,000 hectare PSW for the site with a term through July 10, 2026.
- Wind measurement masts have been installed in full. Wind measurement works have started.

Implementation period: 2023–2028.

5. Project "Expansion up to 810 MW of WPP in Almaty region (Power China)"

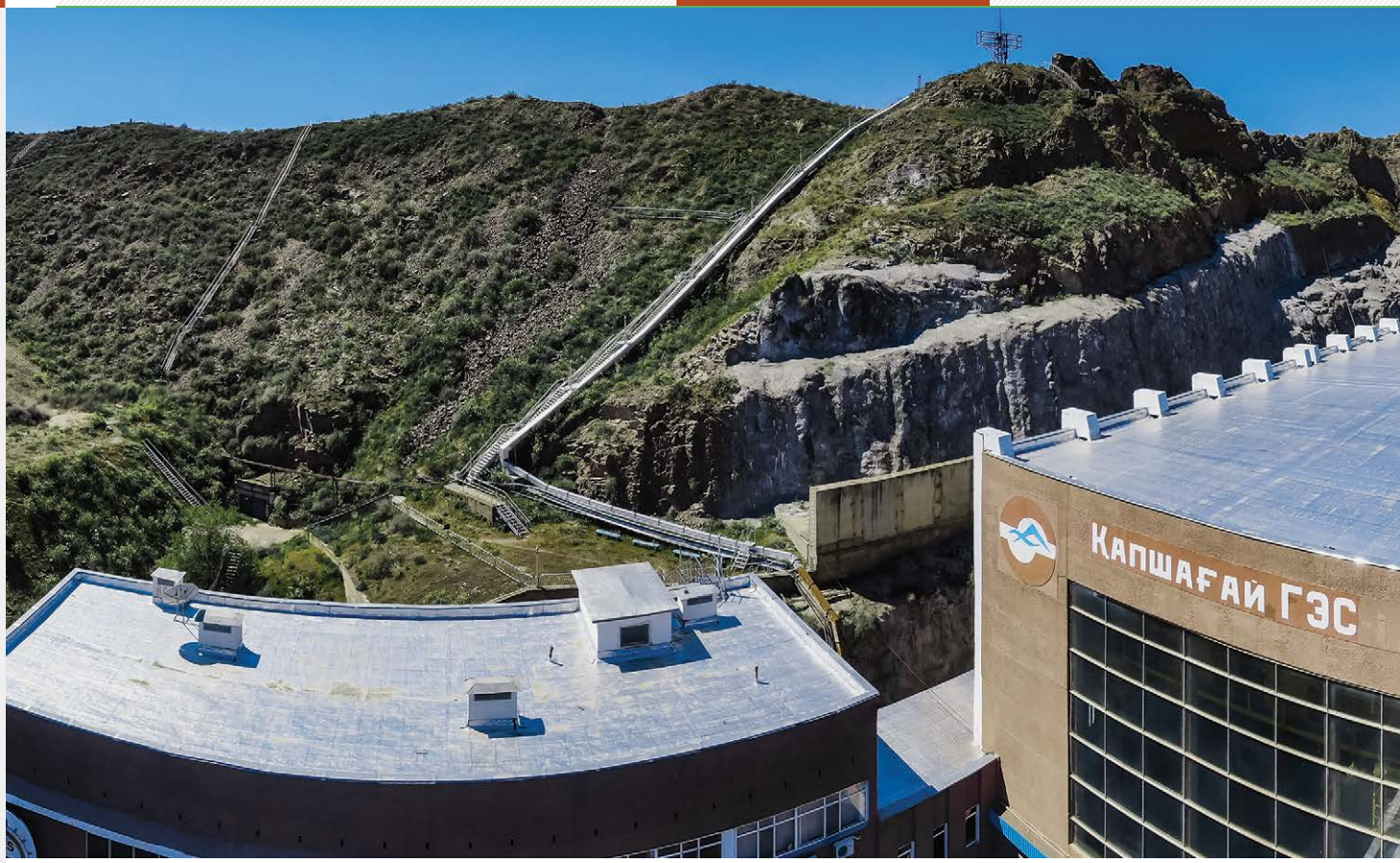
Project Description: Creation of a large RES facility with the possibility of balancing the errors of power output of the WPP due to the operation of HPPs in one single scheme of power output.

Results of 2023:

The project has signed:

- Joint development agreement — 17.10.2023.
- On November 7, 2023, KGTE LLP concluded an agreement on development of the power output scheme with Scientific-Engineering Center Energetika LLP.
- On January 3, 2024, KEGOC obtained approval of the capacity delivery scheme.

Implementation period: 2023–2029.



6. Project "Construction of SPP with total capacity of 1 GW together with Unigreen Energy"

Project Description: Construction of SPP with the capacity up to 1 GW with the possibility of using energy storage systems.

Results of 2023: within the framework of the project was signed:

- Charter and Shareholders' Agreement of private company "Altyn Dala Energy Ltd." — 24.11.2023.
- Joint Company "Altyn Dala Energy Ltd." was established in the territory of MFCA — 15.12.2023.
- On November 20, 2023, the results of the preliminary scheme of power supply from "Energy system researches" LLP were received for the Western and Northern-Southern zones of the UES of the Republic of Kazakhstan.
- A list of projects of the first stage of 500 MW was signed on December 28, 2023.

Implementation period: 2023–2028.

7. Semey HPP construction project

Project Description: A station with a capacity of up to 300 MW on the Irtysh River. The station will be located in Abay region. The operating mode of the plant is maneuverable. The Semey HPP will serve as a counter-regulator for Shulbinsk HPP.

The location of Semey HPP is 20 km from Semey city, towards Shardara HPP. The site of projected construction is located in the interval from 10 to 40 km upstream of the Irtysh River. Absolute marks of the surface of the site of works on the river water cut-off vary within the limits of abs. marks 196 and 206 m.

The reservoir of the Semey HPP with the elevation of NPP = 212m will occupy an area of about 107 km^2, having a width from 1.5 to 7.0 km and a depth at the dam of 18 m.

Results of 2023:

- Implementation of the Semipalatinsk HPP Construction Project was approved by the decision of the Management Board of Samruk-Energy JSC on May 24, 2023.
- A contract for the development of a preliminary feasibility study was concluded.
- Preparatory activities are underway to conclude an agreement with potential investors for the Project implementation.

Implementation period: 2023–2028.

8. Project "Construction of a new power plant GRES-3 based on clean coal technologies"

Project Description and Purpose: Construction of a new coal-fired GRES-3 station with maneuverable generation mode based on clean coal technology with a capacity of 1,320 MW (two power units of 660 MW each), aims to address the shortage of maneuverable capacity in the country while complying with modern environmental emission standards.

Results of 2023:

- On September 29, 2023, a contract was signed for pre-feasibility study, with an estimated completion date of May 2024.

Implementation period: Unit 1 — 2028, Unit 2 — 2029.

9. Project 'Modernization of Power Unit No.3 of GRES-1'.

Project Description and Purpose: To extend the service life of equipment, improve technical and economic indicators of reliability, efficiency, and maintainability, reduce operation and repair costs, increase the time between repairs, and comply with environmental standards.

Results of 2023:

- On August 8, 2023, the Company's EIS meeting recommended approval of the pre-investment phase of the Project, with the development of a feasibility study.
- On October 28, 2023, a contract was signed for the development of the Feasibility Study of the Project.

Implementation period: 2023–2027.