Aydarov Ansar Aydaruly

Chief Investment Officer

Samruk-Energy JSC applies a comprehensive approach to risk management. During the project selection stage, technical, financial, environmental, and regulatory risks are analyzed.

To this end, highly qualified experts and international consulting firms are engaged. Particular attention is given to climate-related risks – for example, based on the results of a feasibility study and in light of the annual decline in water levels in the Ili River, a decision was made to terminate the construction of the regulating hydropower plant ahead of schedule. Such measures enable effective risk management and ensure the successful implementation of projects.

Investment activities

In 2024, Samruk-Energy JSC continued the implementation of major investment projects, taking into account the dynamically changing external economic conditions. The Company maintains its focus on improving the reliability of energy supply, developing the renewable energy sector, minimizing the environmental impact of its activities, and strengthening Kazakhstan's energy security and independence.

Our approach

Samruk-Energy JSC's strategy in investment activities focuses on diversification of financing sources, including active attraction of funds from international financial organisations and energy companies. In 2024, the Company signed agreements with Total Energies, Masdar, Power China, and Energy China to implement renewable energy projects. We use various investment attraction mechanisms, such as public-private partnerships and green bonds, which allows us to ensure stable financing.

The priority of Samruk-Energy JSC's investment activities is to create long-term value, introduce new technologies and create quality jobs. The Company focuses on commercial feasibility and a responsible approach, taking into account environmental, social and governance factors to effectively manage risks and ensure sustainability.

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, sustainability reports, including ESG factors, in accordance with generally recognised international or national auditing standards;
- a formalised 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;

- minimising 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, 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.

Samruk-Energy JSC applies a comprehensive approach to risk management in the implementation of investment projects. At the project selection stage, a thorough analysis of technical, financial, environmental, and regulatory risks is carried out with the involvement of highly qualified experts and international consulting companies. Special attention is paid to climate risks. For example, based on the results of the feasibility study, taking into account the annual decrease in the water level of the Ili River, a decision was made to terminate the construction of the regulating HPP ahead of schedule. This approach allows for effective risk minimization and guarantees the successful implementation of projects.

The effectiveness of Samruk-Energy JSC's investment projects is assessed by key indicators such as implementation timelines, budget utilization, achievement of planned capacities, and environmental outcomes.

Samruk-Energy JSC has formed a list of capital and "green energy transition projects" included in the 2024–2033 Strategy (more details on the website of Samruk-Energy JSC: www.samruk-energy.kz).

Implementation of the Investment Programme of Samruk-Energy JSC in 2023, by development method, million KZT (excluding VAT)[23]

CAPEX by area	2022 fact	2023 fact	2024 fact	2025 Forecast	2026 Forecast
Volume of capital investments, total	100,580	132,146	229,787	360,587	1,394,336
Investment projects	58,372	80,393	136,375	193,275	1,202,537
Maintaining production assets	41,052	49,555	89,715	152,403	189,977
Maintenance of administrative assets	1,157	2,198	2,967	12,107	1,806
Other investments	0	0	731	2,803	15

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 2025, Samruk-Energy JSC will continue implementing key projects, including construction of CHPPs in Kokshetau, Semey and Ust-Kamenogorsk, completion of gasification of Almaty CHPP-2 and CHPP-3, as well as development of RES – wind and solar power plants in various areas. It is planned to complete construction of Semey HPP to increase the regulating capacity of the energy system. Within the framework of the 1,100 MW combined cycle gas turbine project in Kyzylorda region, feasibility studies, expertise and financial close will be completed in 2025. The Company will also continue to work with international partners to attract investment and technology, which will improve energy security and promote decarbonisation.

[23] 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.

Investment projects implemented in 2024

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 electrostatic precipitators will increase the installed capacity of GRES-1 up to 4,000 MW.

Results 2024:

- Start-up and commissioning works were completed between August and October 2024;
- On 23 December 2024, an act of acceptance of the facility for operation was signed;
- On 26 December 2024, the act of the results of the attestation by the system operator KEGOC JSC was signed.

2 Project Construction of 110/10kV substation Kokozek with connection to 110kV switchgear-110kV of 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.

Results 2024:

- Adjustment of the design and construction project with a favourable conclusion of the State Expertise Committee was completed;
- Completed construction and assembly works on 10 kV CL-10 kV of substation No.180 A Kokozek – substation No.77A Kokozek;
- The Act of Acceptance of the facility into operation was signed.

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

Investment projects of Samruk-Energy JSC

1 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.

Implementation period:

2006–2028

Results 2024:

- On 31 May, the Feasibility Study of the project received a positive opinion from RSE Gosexpertiza, and corporate procedures are underway to approve the results of the project Feasibility Study;
- 28 August 2024 EPC – contract with the Russian-Kazakh consortium was signed;
- On 12 September 2024, an Investment Agreement was signed with the DOE of the Republic of Kazakhstan for Block 3;
- On 8 November 2024, a public hearing on the Environmental Impact Assessment (hereinafter referred to as EIA) was held;
- On 27 November 2024, an opinion on the EIA public hearing was received from the Environmental Regulation and Control Committee;
- On 27 November 2024, during the state visit of V.V. Putin, an agreement was signed with LLC ORGRES on cooperation to reduce environmental emissions. Putin signed an agreement with OOO ORGRES on co-operation to reduce environmental emissions.

2 Project Modernisation 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.

Implementation period:

2022–2026

Results 2024:

- 19 June 2024 The Law of RK On Electric Power Industry was amended to include in the tariff for installed capacity the possibility of recovering capital costs for the construction of the heating part;
- On 2 July 2024, received the First Drawdown of KZT 21.2 billion from the EBRD;
- On 20 September 2024, the Invest Headquarters approved access to the site until the positive conclusion of RSE Gosekspertiza on the design and environmental permits with minimisation of environmental impact;
- On 27 September 2024, the positive conclusion of RSE Gosexpertiza on the feasibility study adjustment was received;
- On 01 November 2024, the development of the project design and construction documentation was completed and uploaded to the portal of RSE Gosexpertiza;
- On 2 December 2024, received an additional tranche under the first sample in the amount of KZT 22.9 billion from the EBRD;
- On 20 December 2024, received a tranche of the first sample of KZT 15 billion from ADB;
- 31 December 2024 Investment Agreement was signed between AIES JSC and the Ministry of Energy of the Republic of Kazakhstan.

3 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.

Implementation period:

2021–2026

Results 2024:

- On 16 February 2024, by the order of the Acting Minister of Energy of the Republic of Kazakhstan, the Rules for Organising Auction Bidding were adopted, increasing the commissioning period from 36 to 48 months (corporate procedures are underway to sign the Additional Agreement with RFC LLP);
- On 20 February 2024 the EPC Contractor signed a contract with Ansaldo Energia (Italy) for supply of 2 gas turbine units with the following deadlines for equipment manufacturing (FCA): GTP with generator for PK-1 – February 2025, GTP with generator for PK-2 – May 2025;
- On 17 May 2024, the EPC Contractor signed a Slot Reservation Agreement with Dongfang Electric International Corporation (Slot Reservation Agreement) for the supply of steam turbines with generators;
- On 20 June 2024, the EPC Contractor signed a Contract with Dongfang Electric International Corporation for the supply of steam turbines with generators;
- On 30 June 2024, the EPC Contractor signed a Contract with ZIO Podolsk for the supply of the HRSG;
- On 20 September 2024, the Invest Headquarters approved access to the site until the positive conclusion of RSE Gosekspertiza on the design and environmental permits with minimisation of environmental impact;
- On 12 December 2024, the first tests of the Ansaldo Energia equipment took place.
- On 26 December 2024, the draft DCP was checked for completeness after being uploaded on the portal of RSE Gosexpertiza.

4 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.

Implementation period:

2027–2032

Results 2024:

- The active phase with SGP construction is planned after completion of the CHPP-2 and CHPP-3 projects in 2027.

5 Project Project Reconstruction of cable networks in Almaty

Project Description and Purpose:
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"".

Results 2024:

- 98 km of cable lines were replaced, one distribution substation (DS), transformer substations (TS) for KTPB – 8 units, 13 TS were reconstructed, 15 transformers were replaced;
- 3 facilities were put into operation;
- Adjustment of design and estimate documentation was carried out for 3 projects;
- Construction and installation works on 9 projects continued.

Implementation period: **2022–2030**

6 Project Reconstruction and Modernisation 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 2024:

- Under the order of the World Bank under the allocated grant, the consulting company AFRY Switzerland conducted a feasibility study (FS), proposing five options for modernisation and reconstruction of the HPP. The Technical Council of AIES JSC chose the most optimal option (2A), which includes complete replacement of the existing power and mechanical equipment (EMO), as well as all auxiliary equipment. Under this option, it is envisaged to increase the capacity of HPP-11 through direct connection with HPP-7 and reduce the number of units from 3 to 2 at HPP-1 and HPP-2.
- Activities were carried out to organise financing for the project. Proposals were received from the Asian Development Bank (ADB) (grant for feasibility study development), BCC-Invest, Halyk Bank, Zhusan Bank. Familiarisation meetings were held with potential project participants, including Eser Contracting & Industry Co. Inc (Turkey) and Genc Kz Construction LLP.
- A Project Roadmap has being developed jointly with ADB. A Memorandum of Understanding was signed with ADB for feasibility study development by the bank's project proponent.

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

Project Description and Purpose:
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 2024:

- On 2 February 2024 the Decree of the President of the RK on ratification of the MEA was signed;
- On 28 November 2024, supplementary agreement to the Investment Agreement was signed.

Implementation period: **2021–2028**

8 Project 1 GW wind power plant with energy storage system in Zhambyl region in cooperation with MASDAR

Project Description and Purpose:
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 intermittency of wind generation.

Results 2024:

- On 12 November 2024, Qazaq Wind Power LLP Portfolio Company was established on the basis of Astana International Financial Centre (AIFC);
- On 12 November 2024, an Investment Agreement (IA) was signed on the margins of the COP-29;
- On 15 November 2024, a PPA (power purchase agreement) was signed on the margins of COP-29.

Implementation period: **2023–2029**

9 Project 1 GW wind power plant with energy storage system in Zhambyl region in cooperation with China Power International Holding (CPIH)

Project Description and Purpose:
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 2024:

- On 5 March 2024, Astana Green Energy Holding Ltd was registered on the MFCA;
- On 12 November 2024, an intergovernmental agreement (IGA) was signed between the ROK and the PRC on the margins of COP29.

Implementation period: **2023–2029**

10 Project Construction of SPP with a total capacity of 1 GW together with Unigreen Energy

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

Implementation period:

2023–2028

Results 2024:

- On 28 December 2023, the List of projects of the first phase of 500 MW was signed;
- Offtake contracts were concluded with the Fund's subsidiaries and affiliates with conditions precedent;
- On 31 December 2024, a protocol was signed to define the 2nd stage of 500 MW.

11 Project Semey HPP construction project

Project Description and Purpose:
The main prerequisite for the implementation of the Semey HPP project is the deficit of regulating and manoeuvring capacity in the Unified Energy System of the Republic of Kazakhstan. The HPP project, which is a counter-regulator for the Shulbinsk HPP, is included in the Hydropower Sector Development Plan of the Republic of Kazakhstan. The construction of Semey HPP on the Irtysh River is planned in the north-eastern part of Kazakhstan, in the Abai region, near the Semey city, in the middle reaches of the Irtysh River.

Implementation period:

2023–2031

Main parameters of the project (based on the results of the pre-feasibility study):

- The installed capacity of Semey HPP is about 300 MW.
- The average annual electricity generation of Semey HPP is approximately 1.244 billion kWh.

In addition to its own energy effect, the project provides for the creation of a weekly-daily regulation reservoir to equalise the uneven discharges of the Shulbinsk HPP. This will make it possible to transfer the Shulbinsk HPP into the mode of covering the peak and semi-peak parts of the UES of Kazakhstan electric load schedules, using the entire installed capacity of the plant. Thus, the regulating capacity of Shulbinsk HPP can be increased up to 500 MW.

Results 2024:

- On 20 March 2024, the Government of the Republic of Kazakhstan and the Government of the State of Qatar signed an Agreement to establish a long-term strategic partnership for the development of projects in priority sectors, including construction of the Project;
- Work has been completed to develop a pre-feasibility study for the Project;
- On 31 December 2024, a Joint Development Agreement for the Project (Joint Development Agreement) was signed with Nebras Power.

12 Project Construction of a new power plant GRES-3 based on clean coal technologies

Project Description and Purpose:
Construction of a new coal-fired power plant GRES-3 with manoeuvrable mode of generation based on clean coal technology with a capacity of 2,640 MW (four power units of 660 MW each), which will cover the shortage of maneuverable capacity in the country with compliance with modern environmental standards on emissions into the atmosphere.

Implementation period:

Block 1 – 2030

Block 2 – 2031

Blocks 3,4 – 2034-2035

Results 2024:

- Together with the Ministry of Energy of the Republic of Kazakhstan, the location of GRES-3 in Pavlodar region on the territory adjacent to GRES-2 was determined (minutes of the meeting of the Ministry of Energy of the Republic of Kazakhstan dated 25 January 2024);
- In May 2024, an additional agreement was concluded for the development of pre-feasibility study taking into account 4 power units;
- The preliminary short-list of potential investors represented by KCG Trading/Sun Mir Astana LLP (China/RK consortium), Zhong Mao Group (China) and East Hope Group (China) was determined;
- On 8 July 2024, the necessary legislative amendments for the project were signed by the Head of State as part of the amendments to the legislative acts on heat, electricity and regulated services;
- On 15 November 2024, the materials of the feasibility study developed by Power China were received from the investor KCG and handed over to the project organisation for adaptation with the pre-feasibility study materials;
- On 20 November 2024 the Order of Akimat of Solnechny settlement on allocation of land plot of 170 ha was received;
- On 22 November 2024, a Temporary Compensated Land Use Agreement was signed with the Ekibastuz OZO for the station site;
- On 27 December 2024, the Order of the Akimat of Solnechny settlement was received, and the Agreement on temporary compensated land use was signed with the OZO of Ekibastuz for the land plot with the area of 32.8 hectares.

13 Project Modernisation of Power Unit No. 3 of GRES-1

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

Results 2024:

- On 11 October 2024, the developed Feasibility Study was uploaded to the portal of RSE Gosexpertiza for non-departmental expertise of the project;
- On 30 December 2024, a positive opinion of RSE Gosekspertiza was received.

Implementation period: **2023–2028**

New investment projects

1 Project Construction of 500 MW HPP in Karaganda region, 300 MW HPP in Turkestan region jointly with China Energy Overseas Investment Co., Ltd (China Energy)

Project Description and Purpose:
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 and solar generation.

Implementation period:

2024–2028

Results 2024:

- On 17 January 2024, a Memorandum of Understanding was signed with the Akimat of Turkestan region;
- On 17 April 2024, the ROK DOE and Energy China signed a Memorandum of Understanding on investment in the energy sector;
- On 2 July 2024, an Agreement of Principles was signed between Energy China and Samruk-Kazyna JSC for the implementation of the Project;
- On 15 October 2024, an Agreement on joint project development was signed between Samruk-Energy JSC and Energy China (JDA);
- On 12 November 2024, at the COP29 conference, an Agreement on joint project development was signed between Samruk-Energy JSC and Energy China (JIA). On 12 November 2024, an intergovernmental agreement (IGA) between the Republic of Kazakhstan and the People's Republic of China was signed on the sidelines of COP29.

2 Project Construction of a combined heat and power centre in Kokshetau city

Project Description and Purpose:
Construction of a new combined heat and power plant in Kokshetau city with an electric capacity of 240 MW and a heat capacity of 520 Gcal to ensure reliable heat and power supply in the region.

Implementation period:

2023–2028

Results 2024:

- On 17 April 2024, an agreement was signed between the Governments of the Republic of Kazakhstan and the Russian Federation on projects for the construction of coal-fired combined heat and power plants in the cities of Kokshetau, Semey and Ust-Kamenogorsk on the territory of the Republic of Kazakhstan;
- On 24 June 2024 the project company Kokshetau TPP LLP was registered;
- On 29 August 2024, a contract was signed between Kokshetau TPP LLP and LLC Inter RAO-Export for the development of design and estimate documentation for the project;
- Technical conditions were obtained for connection to heat and water supply and water disposal networks, for connection to power grids for the construction period and for connection to railway tracks;
- A land plot for the construction of the station was obtained.

3 Project Construction of a combined heat and power centre in Semey city

Project Description and Purpose:
Construction of a new combined heat and power plant in Semey city with an electric capacity of 360 MW and heat capacity of 1,060 Gcal to ensure reliable heat and power supply in the region.

Implementation period:

2023–2029

Results 2024:

- On 17 April 2024, an agreement was signed between the Governments of the Republic of Kazakhstan and the Russian Federation on projects for the construction of coal-fired combined heat and power plants in the cities of Kokshetau, Semey and Ust-Kamenogorsk on the territory of the Republic of Kazakhstan;
- On 24 June 2024 the project company Semey Energy LLP was registered;
- Technical conditions for connection to the power grid were obtained;
- Land plots were obtained for construction of the station, water intake, construction and operation of the ash dump.

4 Project Construction of heat and power centre in Ust-Kamenogorsk city

Project Description and Purpose:
Construction of a new combined heat and power plant in Ust-Kamenogorsk city with an electrical capacity of 360 MW and a thermal capacity of 1,007 Gcal to ensure reliable heat and power supply to the region.

Implementation period:

2023–2029

Results 2024:

- On 17 April 2024, an agreement was signed between the Governments of the Russian Federation and the Republic of Kazakhstan on projects for the construction of coal-fired combined heat and power plants in the cities of Kokshetau, Semey and Ust-Kamenogorsk in the Republic of Kazakhstan;
- On 24 June 2024, the project company Oskemen Energy LLP was registered;
- Connection points to engineering networks (design boundaries) have been obtained.

5 Project Construction of a power plant based on a combined cycle gas turbine with a capacity of about 1100 MW in Kyzylorda region

Project Description and Purpose:
The project is being implemented to introduce new manoeuvring capacities in the South Zone of UES RK. The project also includes construction of the Kyzylorda-Shymkent and Kyzylorda-Zhezkazgan transmission lines, which will be transferred to the ownership of the system operator KEGOC JSC.

Implementation period:

2024–2029

Results 2024:

- On 14 February 2024, an Agreement of Principles (Heads of Agreement) was signed between the Ministry of Energy of the Republic of Kazakhstan, Samruk-Kazyna JSC and Urbacon Concessions Investments WLL (UCC) – the Project investor;
- On 20 March 2024, an Intergovernmental Agreement was signed between the Government of Qatar and the Government of the Republic of Kazakhstan (MPS);
- On 30 October 2024, the IGA was ratified by the Law of the Republic of Kazakhstan No.133-VIII On Ratification of the Agreement between the Government of the Republic of Kazakhstan and the Government of the State of Qatar on the Establishment of a Long-Term Strategic Partnership for the Development of Projects in Priority Sectors;
- December 2024, Samruk-Energy JSC and UCC signed a Joint Implementation Agreement (JIA) for the Project;
- On 25 February 2025, the Shareholders Agreement (SHA) of the Project was signed between Samruk-Energy JSC and UCC in Doha, Qatar.