**APPROVED**

By the decision of the Board of Directors of Samruk-Energy JSC

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**Development Strategy of**

**Samruk-Energy JSC for the years 2018-2028**

**СЭ-С-01/02**

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# GENERAL PROVISIONS

This Development Strategy is the fundamental document for the planning and implementation of the Company's activities for the period 2018-2028.

The strategy takes into account the state policy in the field of strategic planning of the national energy security system, meets the main strategic directions, goals and objectives of the Fund and is developed in accordance with the Corporate Standard for Strategic and Business Planning in the group of companies of Samruk-Kazyna JSC.

While forming the Strategy, Samruk-Energy adheres to, but is not limited to, the principles of sustainable development enshrined in the United Nations Global Compact, Samruk-Energy Sustainable Development Guide, and includes the elements described in the Chapter "Sustainable Development" of the Samruk-Energy Corporate Governance Code ".

The Company's strategy is based on Samruk-Energo's current positions, taking into account the main trends of the external environment and the energy industry, which influence the conditions of the society's functioning.

Samruk-Energy JSC was established in accordance with the decision of the general meeting of shareholders with a view to implementing the long-term state policy on modernization of existing and commissioning of new generating capacities.

Samruk-Energy was registered on May 10, 2007. The sole shareholder of Samruk-Energy as of August 2018 is the Fund.

The main activities of Samruk-Energy are the management of energy assets in the Republic of Kazakhstan, as well as assistance in the modernization of existing and construction of new generating capacities, the introduction of new technologies in the energy sector of the Republic of Kazakhstan.

## Macroeconomic trends

To date, the global energy industry faces a large-scale task of finding the best balance between the components of the energy trilemma: economic accessibility of electricity, reliability of supply and environmental sustainability. At the same time, the priority of balancing the components of the trilemma, as a rule, is largely determined by the level of the country's development and shifts from the economic accessibility of electricity in the case of developing countries to environmental sustainability in the case of developed ones (Picture 1).

*Picture 1. Global energy trilemma and the change of the imperative in the development of the country.*



World development and the need for balancing within the energy trilemma determines global energy trends, including the two most significant:

1. Energy transition - global increase in environmental friendliness:
2. 1) Rapid growth in the share of RES in developed countries;
3. 2) Moderate growth of coal generation in some regions or catching up economies with the growth of its environmental friendliness and the development of clean coal technologies;

In this direction Samruk-Energy will carry out active work in providing energy transition in RES and in "clean coal".

1. Globalization of networks:
2. Development of international projects that ensure electricity flows between countries in order to reduce prices and increase reliability:
	1. UEM of EEU.
	2. CASA-1000.

The listed global energy trends, the world economic trends and the development trends of the country's economy, determined, in particular, by the five institutional reforms proposed by the Head of State, determine the key trends in the development of the external environment and their impact on the Company's business:

* 1. Decrease in the growth rates of the economy of the Republic of Kazakhstan, and, as a consequence, the transition to a conservative forecast of growth in electricity consumption;
	2. Weakening of the national currency, which will lead to a rise in the cost of the Company's investment program, but will significantly increase competitiveness in export directions;
	3. Strengthening the environmental regulation of the economy in Kazakhstan;
	4. The need to develop competencies for energy transition in the long term as the energy intensity of the national economy decreases;
	5. Intensive development of technologies - increasing demand for innovations, increasing opportunities for efficient generation of electricity, extraction and processing of thermal coal;
	6. Integration of energy markets - increased export opportunities and increased competitive pressure in the domestic market;
	7. Increase of social responsibility of business and growth of qualification requirements to workers - deepening of interaction with workers and society, increase of productivity and culture of production;
	8. In the long term - a change in the structure of the electricity market and the optimization of tariffs due to the separation of the electricity and capacity market.

## Key challenges

At the moment, the Company faces a number of key external and internal challenges, which are a consequence of the current situation of the Company, the characteristics of the external environment and trends in its development.

* + 1. Key External Calls
1. Introduction of the capacity market

According to the data of the System Operator, as of January 1, 2018, the total installed capacity of thermal power plants was 18845 MW, of which 10,052 MW or 53.3% are over 30 years old, the installed capacity of hydroelectric power plants is 2,661.1 MW, of which 1,840 MW or about 69, 1% have an age of more than 30 years.

To reduce the level of depreciation of the generating equipment, it is necessary to introduce an electric power market, which will allow the construction of new and modernization, reconstruction of existing facilities. With the introduction of the capacity market, the existing tariff for electricity will be divided into two parts:

1) the tariff for electricity - a variable part, which ensures the recoupment of costs for the production of electricity;

2) capacity tariff is a constant part that ensures the return of investments in the construction of new and renewal, modernization, reconstruction, expansion of existing electric capacities.

In the capacity market, the Single Purchaser will be introduced, which will carry out a centralized purchase of the service for maintaining the readiness of electric capacity and centralized provision of services to ensure the readiness of electric power to carry the load.

1. Formation of the common electricity market of the EEU

The introduction of the general electric power market of the EAPS involves the creation of a system of relations between the subjects of the wholesale electricity markets of the Member States of the Union based on the parallel operating electric power systems associated with the purchase and sale of electricity (capacity).

The introduction of the common market is expected from July 1, 2019 after the signing of the International Treaty. However, until the creation of a common gas market (2025), the functioning of the common electricity market will be carried out by the subject matter authorized by the member states of the Union.

As a result of the formation of the common electric power market of the EAPS, the Republic of Kazakhstan will not only have simplified access to the markets of the member countries of the Union, but will also increase the openness of the domestic market for external electricity suppliers.

1. Availability of free capacities

Since 2016 there has been a steady increase in demand for electricity, about 5-7%. The current excess capacity is about 4 GW.

The main excess is concentrated in the Northern energy zone - the key area of the Company's operations. This leads to increased competition and an increased role of competencies for work in a competitive environment, currently limited in Samruk-Energy.

Much of the generation in the RK is related, that is, supplying electricity to affiliated companies. Power blocks in the associated generation are generally characterized by a high level of loading compared to power plants operating in the free market and have a guaranteed sales market. The development of associated generation limits the Company's market opportunities for expanding sales (active competitors, insufficient competencies, high tariffs for interregional transmission of electricity).

1. Decrease in sales volumes of coal

The decrease in the loading of own stations operating on Ekibastuz coal negatively affects the volumes of coal sales. The potential for growth in the consumption of Ekibastuz coal by third-party consumers in Kazakhstan is limited, and the volumes of supplies to Russia are declining, including due to the partial transfer of Russian coal stations to domestic coal or natural gas.

1. Tougher environmental requirements

Currently, there is a steady trend in the world to reduce the level of environmental pollution. The commitments made by the Republic of Kazakhstan, as an active participant in international relations in the field of ecology, and Samruk-Energo, as an environmentally and socially responsible company, determine the need for a proactive response to trends in the field of environmental protection.

1. Changes in the regulatory environment for the development of renewable energy sources

In 2017, the state policy in the field of supporting the use of renewable energy has been radically changed. The mechanism of auction tenders for the construction of renewable energy objects was introduced. Auction auctions are held on the principle of reducing the price of electricity, starting from the established marginal auction prices, for participation in which it is necessary to make financial provision.

1. Digitalization of business

Currently, there is a trend in the world for digitalization of production and operational processes, which contributes to optimization of time costs, increase of operational efficiency and development of analytical data obtained in automated mode.

* + 1. Key internal challenges
1. Realization of the plans of the Government of the Republic of Kazakhstan on privatization of the Company's assets.

Within the framework of a comprehensive privatization plan for 2016-2020, a part of the assets is planned to be privatized by a group of Samruk-Energy companies. To maintain the value of the Company, it is necessary to take a number of measures to ensure the sale of these assets at a fair market price.

1. Necessity of cardinal increase of the Company's operational efficiency and growth of the ROACE indicator.
2. High level of debt burden on the Company, due to the implementation of the investment program.
3. Lack of portfolio / project management in Samruk-Energy.

The strategic goals and initiatives of this strategy are aimed at resolving the above-mentioned key challenges of the company.

Based on the analysis of the operational environment, internal and external calls, Table 1 presents the Company's SWOT analysis.

*Table 1. SWOT-analysis*

|  |  |
| --- | --- |
| **Strengths** | **Weaknesses** |
| 1. The presence of large reserves of thermal coal with a low production cost
2. Effective energy capacities relative to the general level of depreciation of capacities in the Republic of Kazakhstan
3. Support from the state and the Fund
 | 1. Low utilization factor of installed capacity
2. High level of debt load
3. Low cost management opportunities
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| **Opportunities** | **Threats**  |
| 1. Increase in electricity generation due to annual growth of electricity consumption, increase of competitiveness and implementation of the investment program
2. Development of export potential
3. Optimization of capacity balance in accordance with market demand (TPP, TPP, HPP, RES)
4. Development of renewable energy sources together with a strategic partner
5. Expansion of coal use directions, incl. by enriching
 | 1. Preservation and expansion of coupled generation
2. Increase in the gap between the supply and demand of generating capacities
3. Toughening environmental legislation
4. Improving access to the market of the Republic of Kazakhstan through the development of the common electric power market of the Unified Energy System
5. Instability of the geopolitical situation in neighboring countries
6. Further transfer of the capacity market
7. Increase in the cost of large investment projects as a result of the weakening of the national currency
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# Mission and Vision

Electric power industry is the basic infrastructure branch of the economy, on which depends the efficiency of the functioning of the production complex, the service sector, and the quality of life of the population of the Republic of Kazakhstan. The Company faces the challenge of creating a balanced development model that includes the optimal ratio of energy supply to domestic consumers and exports, combining high economic efficiency, innovative improvement and advanced standards of social responsibility. Proceeding from this, the strategic mission of the Company is formed.

**Mission:** To create value for shareholders, to meet the growing demand through reliable supplies of energy resources, high-tech development, guided by the principles of sustainable development.

**Vision:** An efficient high-tech operating energy company is the energy leader of Kazakhstan.

# STRATEGIC OBJECTIVES

Achievement of the mission and vision of the company will be ensured through the implementation of three strategic goals, including:

* 1. Ensuring reliable competitive energy supply in the markets of presence
	2. Increase of cost of the share capital
	3. Sustainable development

# STRATEGIC INITIATIVES

To achieve the vision of the Company and fulfill its strategic goals, the Company will focus on the implementation of four strategic initiatives, such as:

* 1. Increase the profitability of sales;
	2. Increasing the efficiency of activities;
	3. Effective implementation of investment programs;
	4. Corporate Governance and Sustainable Development.

The selected initiatives will allow the Company to achieve target values of strategic indicators approved by the shareholder.

## Increase in profitability of sales

Increasing the profitability of the company's sales is one of the main initiatives, within the framework of which it is planned to ensure the implementation of a number of activities, including:

* + 1. Increased sales of electricity and coal in the domestic market.

According to the forecast balance of electric energy and capacity for 2018-2024, approved by the order of the Minister of Energy of the Republic of Kazakhstan No. 475 of December 25, 2017, it is planned to increase electricity consumption by 1-2%. At the same time, the actual increase in electricity consumption in 2017-2018. amounted to 6% in comparison with the forecasted balance approved by the Ministry of Energy of the Republic of Kazakhstan.

In addition, according to the forecast of socio-economic development of Kazakhstan for 2019-2023, the average annual growth rate of the economy of Kazakhstan is expected at the level of 4.1-4.5%. At the same time, the expected increase in electricity consumption by 2024 in the Northern and Southern zones may amount to 15 and more billion kWh.

As part of the forecast balance sheet, it is planned to increase the sales volumes of Samruk-Energy's domestic energy market to 36.1 billion kWh in the future until 2028.

To ensure the plans for the implementation of the Company's coal on the "Bogatyr" section, a project is being implemented to implement cyclic-production production technology. As a result of its production capacity "Hercules" section increase from 32 to 40 Mill. tonnes with an increase productivity by 25% and reducing the production cost of coal is 12%.

* + 1. Increased sales of electricity and coal in foreign markets

The analysis of external markets for electricity and coal will identify and evaluate potential new markets. The analysis of new markets will provide an opportunity not only to see the real situation, but also help to apply the necessary marketing tools to promote the export of electricity and coal, which means that it will enable them to increase profits and take the leading place in the foreign market.

The main direction of export of electric power is export to Russia.

As an additional direction of electricity exports, the CASA-1000 project is being considered. Export in this direction is planned in the volume of 1 billion kWh from 2022 on an annual basis. The projected profitability for the CASA project is about 11.5%.

Additional markets for the export of electricity can be considered markets of Kyrgyzstan, Uzbekistan and China.

Starting from 2024 with the commissioning of the concentrator in the Bogatyr section, it is planned to start the export of enriched coal in the amount of 1.0 million tons, from 2026 the increase in the volume of exports of enriched coal to 3.4 million tons annually, taking into account the expansion of the concentrator's capacity.

* + 1. Development of the product line and price options for the sale of electricity and coal

In order to maximize the profitability of sales, ensure the optimal level of capacity utilization and increase the share of the electricity consumption market, the Company develops a portfolio of products and services.

## Enhancement of efficiency

At present, condensing coal-fired power units forms the basis of generating facilities of the Company (more than 70%). In the near future, despite the Company's participation in renewable energy projects, coal generation will remain Samruk-Energy's core competency.

In this regard, the main emphasis in the development of generation will be placed on improving the performance of existing facilities (reducing production costs, efficient operation and equipment repair), innovative development and effective implementation of investment programs.

* + 1. Increasing the operational efficiency of existing facilities

In terms of reducing the cost of electricity produced by power plants is and in the future will be implemented work to reduce the cost of used fuel. The Company solves this task by implementing a number of measures, including:

* + 1. Optimization of operating modes of power units
		2. Reduction of water costs for technological needs
		3. Realization of the program on energy saving and energy efficiency
		4. Other activities.
		5. Innovative development and digitization.

Currently, several projects aimed at performance improvement are implemented as part of execution of innovation development program, among them:

1. Digital power plant. The project offers the possibility of introducing a centralized collection of production and process data, remote monitoring and forecasting of production processes and technical condition of units, machines, equipment and monitoring systems of SA production processes (digital control room) based on production and technical platforms. This will allow obtaining reliable data and ensuring the autonomy of processes, eliminating human factor in production.
2. Feasibility of using fluidized bed technology and circulating fluidized bed for firing high-ash coal (coal with ash content of 50% or more – seam No. 3 of Ekibastuz deposit and depleted coal / coal byproducts) is studied in conjunction with Nazarbayev University.
3. The system of starting up a boiler without fuel oil provides for equipping a plasma-fuel system (PFS). This technology is successfully applied at power units with capacity from 200 to 1000 MW in the People's Republic of China, the Russian Federation, Indonesia.
4. The implementation of the project "Digital coal mine" provides for automatic control over performance parameters of mining equipment and transport of coal mine (the weight of the cargo being transported, the location, technological condition, speed, pressure and temperature in tires, etc.), automation and analysis of open-pit dump truck indicators: number of movements, machine hours, mileage, fuel consumption, automatic control and analysis of the production discipline of drivers and operators of mining equipment: downtime, commencement and the end of works.
	* 1. Improvement of financial stability

The Company will strengthen measures to preserve and strengthen financial sustainability in the medium term. This strategic initiative will allow Samruk-Energy to effectively manage its debt and achieve an appropriate capital structure.

* + 1. Implementation of business transformation program

Business transformation program of “Samruk-Energy” JSC will ensure transformation of the company into a technological, highly-profitable and efficient business structure and create a reliable platform for the Company to achieve the strategic development goals specified in “Samruk-Energy” JSC development strategy for 2018-2028.

The Transformation Program is based on parallel work in five key areas:

* Reengineering and digitization of business processes - automation of target base processes, implementation of integrated systems for resource management, integrated planning and corporate management in all organizations that included in the scope of transformation projects.
* Simplification of legal structure of the company - privatization of assets according to “Samruk-Kazyna” Fund’s Comprehensive Privatization Plan
* Transformation of people - overall development of corporate culture in the company, introduction of a leadership development program, a system for evaluating employees’ compliance. Implementation of the succession planning program, personnel reserve for key positions, “Zhas Orken” young specialists development program. Application of service model at using routine processes, implementation of the program for recognition of employees who achieved outstanding results. Development of up-to-date HR-analytics tools, automated processes of human resources management.
* Introduction of change management and project approach - application of project management and change management standards, availability of competence for change management and project approach for all company executives. Development and application of the methodology of change management and the project approach are included in the key performance indicators of the company and key employees of the company.

## Effective implementation of investment programs

Samruk-Energy plans to implement best practices in project management from 2019 as part of Transformation program implementation, including:

* portfolio management of investments at the Company, which will significantly improve the distribution of financial resources only to high-profitable investment projects;
* project management, will improve control at the stage of investment projects implementation (budgets, terms);
* implementation of RE projects by attracting strategic investors, will allow dividing the investment load and increasing the speed of consolidation of competencies and best practices in green energy.
* refusal of low- profit projects implementation. The company's investment projects should be based solely on the principles of commercial viability and long-term interests, and the return on investment.

## Corporate Governance and Sustainable Development

One of the main initiatives of the company is to ensure that its operations comply with the principles of sustainable development, consistency of its economic, environmental and social goals for sustainable development and creation of economic value in the long term.

* + 1. Effective Corporate Governance

The company seeks to improve the effectiveness of corporate governance to ensure sustainable business development and making well-balanced management and investment decisions.

Quality and effective corporate governance provides effective risk management and a reliable system of internal control, facilitates access to external capital, allows reducing the cost of equity and improve the reputation of the Company.

For continuous improvement of corporate governance, the Company undertakes:

* to strictly observe the rights of shareholders, investors and other stakeholders;
* to clearly share authorities and responsibilities between the Company's bodies and departments;
* to improve performance of the Board of Directors and its Committees, as well as the Executive Body and its Committees;
* to avoid corporate conflicts and conflicts of interest;
* to improve the management reporting system;
* to strive to apply the best world practices of corporate governance, by further introducing the principles and provisions of the Corporate Governance Code.
* to adhere to the principles of information openness for shareholders and other interested parties (formal and transparent policy and procedure for remuneration of directors and executives of the Company, transparent dividend policy, publication of annual report with financial statements and sustainable development report in accordance with the GRI and IFRS every year, etc.);
* Ensure the availability of effective planning processes, effective internal control, compliance systems and internal audit, effective risk management system, and an effective sustainable development management system.
	+ 1. Development of human capital

HR policy determines the need for development of staff competencies in order to successfully implement activities envisaged by business lines of conventional generation, development of RES and HPP, coal business, as well as sales functions on the basis of the Trade House, etc. Moreover, the centralization of a number of business functions in the head office, which is included in company-wide goals, will require reengineering of business processes and maximum concentration of HR resources.

The Company's staff is the main asset and its competitive advantage. The scale and complexity of changes during implementation of the Company's Strategy, as well as a competitive external environment, require the employees to acquire new skills, as well as changing of attitudes and corporate culture.

In this connections, all areas of work with staff will require significant upgrading, development and use of best management practices, which will be achieved through the introduction of a targeted model of human resources management. In addition, the role of human resources management function should become more strategic and focus not only on supporting business, but mainly on the implementation of the Company's Strategy.

The key elements of the Company's HR management policy will be areas related to the development of corporate culture, ensuring social stability and high staff involvement, talent management and ensuring succession, effective staff recruitment and development of qualifications and competencies system. Also, the Company will pay attention to the development of remuneration and motivation system, human capacity, strengthening of competences such as change management and project management, work with the youth and development of young leaders' programs.

* + 1. Implementation of sustainable development initiatives

The company understands the importance of its influence on the economy, the environment and society, and while striving to increase the long-term value, ensures its sustainable development in the long term, respecting the balance of stakeholders’ interests.

Global drivers that influence sustainable development will inevitably result in constraints, difficulties and risks in the process of doing business in general. The main task of the Company is not only to ensure survival in high-risk conditions through proper forecasting and planning, but also to turn risks into opportunities and prepare for an unforeseen future.

Relying on external and internal assessment, in order to efficiently and successfully manage economic, environmental and social aspects, the Company will implement sustainable development initiatives in the following areas:

1. Introduction of high ethical standards and building a corporate culture based on trust;
2. Introduction of sustainable development principles and applying a risk-based approach to project management practices at all investment stages: assessment and management of impacts on social, environmental and economic areas (forced relocation, biodiversity, cultural heritage, etc.) in accordance with Sustainability Guidelines of the Company;
3. Improving financial stability;
4. Promotion of responsible procurement based on the principles of fair and free competition, mutual benefit, transparency and full responsibility for obligations assumed, as well as imposing requirements for suppliers’compliance with ethical standards and Guidelines for the Company's suppliers set out in the Company’s Sustainability Guide.
5. Enhancing the safety culture through the involvement of employees in the OHS management system and improving the effectiveness of monitoring the OHS management system using international standards;
6. Increasing the level of social responsibility, adherence to the principles of the UN Global Compact, investing in human capital;
7. Ensuring environmental sustainability, including the search for and implementation of the best environmental and economic technologies, improvement of production processes, implementation of projects using RES, the identification and prevention of potential emergencies. The company will ensure adherence to the principles of the "green" economy and implement activities and indicators of the Concept for transition of the Republic of Kazakhstan to "green economy".