



**KAZAKHSTAN. RESULTS OF THE FIRST AUCTION FOR SELECTION OF
RES PROJECTS**

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1 Preface

Transition to "green" energy is a trend of the world economy. Despite the fact that Kazakhstan has significant reserves of natural resources, including hydrocarbons, the country intends to actively develop renewable energy sources.

Kazakhstan has set an ambitious goal to switch to "green" generation and increase its share in the structure of generating capacity. According to the concept for the transition of the Republic of Kazakhstan to the "green economy", the share of renewable energy sources by 2020 should be 3% of the total electricity production, by 2030 – 10%, by 2050 – 50%, taking into account alternative energy.

Achieving this goal is based on the existing resource potential of renewable energy sources in the country. The existing potential of wind energy is estimated at 920 billion kWh per year, solar energy 3000 hours per year, hydropower 62 billion kWh per year.

In 2009, Kazakhstan adopted the first legislative initiatives to support the development of renewable energy sector. In 2013, the mechanism of state support for the renewable energy sector was launched, which is based on centralized guaranteed purchase of all electric energy produced by renewable energy sources.

The mechanism of state support until 2018 was based on the practice of fixed tariffs. The introduction of fixed tariffs was a necessary measure for formation of renewable energy sector in the country, attracting investments into industry and served as a guarantee of return of invested financial resources in the implementation of RES in Kazakhstan.

The result of state support was the commissioning of 66 renewable energy facilities with total installed capacity amounted to 413 MW. It should be noted that during the operation of the mechanism of "fixed tariffs" it was possible to achieve 1% of installed capacity of RES facilities in the energy balance of the country, the generation of electric energy by RES facilities amounted to about 1.1 billion kWh of electric energy in 2017.

A significant reduction in capital expenditures in the renewable energy sector has led to the fact that many countries of the world are now seriously ready to refuse from carbon energy in favor of energy produced by renewable energy sources. Things what used to be a fantasy for such a traditional industry as electricity is becoming a reality.

When implementing the state policy in the field of renewable energy development in Kazakhstan, systematic and balanced work is carried out aimed on the one hand at increasing the share of electric energy production by renewable energy sources, and on the other hand, the search for a balance of interests of consumers, so that the increase in the production of "clean" energy in the country does not affect the increase in electric energy tariffs. It should be noted that cheap coal generation of the country is one of the competitive advantages of the economy of Kazakhstan.

The application of such state policy has become in many ways a decisive factor in the transition to the auction mechanism for selection of RES projects, since it is such a mechanism used in many countries of the world that allows to create a competitive field, reduce prices and select the most effective projects. Kazakhstan decided to follow this global trend.

2 the Results of the auction

In February of this year, Kazakhstan announced the first auction aimed at the selection of renewable energy sources projects in the amount of 1000 MW of installed capacity, which corresponds to almost 5% of the installed capacity in Kazakhstan.

Based on the adopted architecture of the auction, it was decided to select projects separately by types of stations – SPP, WPP, HPP and BioPP, taking into account their location on the territory of Kazakhstan, due to the existing topology of electric grid and renewable energy resources, as well as separately for small

(projects with installed capacity of up to 10 MW inclusive) and large (projects with installed capacity of over 10 MW) projects.

According to the auction schedule approved by the authorized body, during the auction this year, investors were offered to "play" 1,000 MW of installed capacity of RE facilities, broken down by types of power plants:

- solar power plants – 290 MW;
- wind power plants – 620 MW;
- hydropower plants – 75 MW;
- Bio ES – 15 MW.

The pilot auction of 2018 was divided into two series – the spring (23.05.2018-07.05.2018) and autumn (03.10.2018-18.10.2018).

During the auction of 2018 there were selected 36 RES projects with total installed capacity of 857,93 MW, among them WPP – 500,85 MW, SPP – 270 MW, small HPP – 82,08 MW and BioPP – 5 MW.

113 Kazakhstan and foreign companies participated in the auction, the geography of auctions was represented by nine countries – the Kazakhstan, the Russia, the China, the Turkey, the France, the Bulgaria, the UAE, the Italy, the Netherlands.

The total volume of applications received from the Participant of the auction amounted to 3,422 MW, i.e. the volume of demand exceeded the volume of supply by 3.4 times. Auction

winners covered 85% of the proposed auction capacity. The average number of applications submitted to the trading system of the auction organizer for successful auctions is 9, which confirms a sufficiently high interest in participating in the auction by investors.

Based on the data given in table 1, it can be seen that auction participants showed interest in the implementation of projects for all types of RES, which were offered during the auction.

For the projects of BioPP, HPP and WPP, the volume of demand exceeded the volume of supply by about 2 times, the greatest interest among the auction participants was to implement the projects of SPP, for which the volume of demand exceeded the volume of supply by 7 times.

As a result of the auction, the maximum reduction in the auction price for wind generation was 23.3% (the starting price for wind generation was 22.68 KZT/kWh), for solar generation – 48% (the starting price for solar generation was 34.61 KZT/kWh), for small HPP – 23.4% (the starting price for solar generation was 16.71 KZT/kWh), BioPP – 1% (the starting price for BioPP was 32.23 KZT/kWh), which is a very good result, confirming that the creation of a competitive field made it possible to determine the market prices for electric energy generated by renewable energy sources.

Tab. 1 Results of the auction for selection of RES projects in 2018

Technology	Auction volume (MW)	The proposal of the participants (MW)	Selected at auction (MW)	Number of proposals received	Number of projects selected	Starting auction price (Tg / kWh)	Average auction price (Tg / kWh)	Minimum auction price (Tg / kWh)
Wind	620	1235.85	500.85	30	16	22.68	19.92	17.39
Solar	290	2023.10	270	75	12	34.61	22.25	18
Small HPPs	75	152.50	82.08	13	7	16.71	14.68	12.80
Biogas	15	10.90	5	3	1	32.23	32.15	32.15
TOTAL:	1 000	3 422	857.93	121	36	-	-	-

The WPP auction results

For WPP projects, 500.85 MW were selected during the auction, which is 80% of the total volume proposed for selection in 2018 (620 MW).

From 10 WPP auctions held, 4 were of them declared to be void. According to the auction results, the range of auction prices for wind generation is set at the level from 17.39 to 22.66 KZT/kWh, while it should be noted that

wind generation projects were selected both on large projects (over 10 MW of installed capacity of projects) and on small projects (value of installed capacity of projects up to 10 MW inclusive).

If we talk about the prices for wind generation, which were formed as a result of the auction, it should be noted that the average contract price was about 19,92 KZT/kWh, i.e. the

price reduction for this type of RES was 12% relative to the starting value (22.68 KZT/kWh).

According to the auction results, those WPP auctions were void held on:

1) 30.05.2018 – large projects of the Western zone of the RK UPS, proposed capacity for selection of 50 MW. The auction were void due to the lack of a sufficient number of auction participants, one participant was eligible to auction;

2) 03.10.2018 – small projects of the Northern zone of the RK UPS, proposed capacity for selection of 50 MW. The auction were void due to the lack of a sufficient number of auction participants, one participant was eligible to auction;

3) 09.10.2018 – large projects of the Western zone of the RK UPS, proposed capacity for selection of 50 MW. The auction were void due to the lack of a sufficient number of auction participants, one participant was eligible to auction;

4) 15.10.2018 – small projects of the Southern zone of the RK UPS, proposed capacity for selection of 50 MW. The reason why the auction were void is the lack of a sufficient number of participants, there were two participants eligible to participate in the auction, the offer volume was less than 130%.

For small WPP projects (the value of the installed capacity of projects up to 10 MW inclusive) auction prices are set in the range from 18 to 22.66 KZT/kWh, the average price reduction for small projects WPP was 8%. The average value of contract prices for small projects of WPP in 2018 amounted to 20.91 KZT/kWh. During the auction 9 projects were selected, the total value of 50,85 MW.

For large projects of WPP (value of projects over 10 MW), auction prices are set in the range from 17.39 to 22.58 KZT/kWh, the average price reduction for large projects of WPP was 12.65%. The average value of prices of contracts for large RES projects in 2018, made up from 19.81 KZT/kWh. During the auction, 7 projects with a total installed capacity of 450 MW were selected.

The maximum value of the auction price for WPP projects in 2018 was 22.66 KZT/kWh, this price will be the starting price for the auction for selection of WPP projects in 2019.

The HPP auction results

In 2018, there were 2 HPP projects auctions held, one for selection of small projects (installed projects value up to 10 MW), 20 MW was proposed for selection, the second – for selection of large projects, 55 MW of installed capacity was proposed for selection. Both auctions were successful.

As a result of the auction, there were selected 7 RES projects, among them small – 4, large – 3.

During the HPP projects auctions, 82,08 MW were selected, which is 9.5% more than the proposed for selection, such results are due to the current auction configuration, where applications were selected, the value of which is more than 50% included in the pre-selection of applications.

For HPP projects, auction prices are set in the range from 12.8 to 15.48 KZT/kWh. The average price value of HPP contracts was 14,69 KZT/kWh, i.e. the price reduction for HPP projects was 12%.

4 HPP projects were selected for small projects (installed capacity of projects up to 10 MW inclusive), auction prices were set in the range from 12.8 to 15.19 KZT/kWh, the average price reduction of small HPP projects was 20%.

For large hydropower projects (value of installed capacity of projects over 10 MW inclusive) auction prices are set in the range from 14.85 to 15.48 KZT/kWh, the average price reduction for large HPP projects was 10%.

The maximum auction price value for HPP projects in 2018 was 15.48 KZT/kWh, this price will be the starting for auction for selection of WPP projects in 2019.

The SPP auction results

For SPP projects, 270 MW were selected during the auction, which is 93% of the total volume proposed for selection in 2018 (290 MW).

The results of auction for selection of SPP projects are as follows: 4 out of 6 announced auctions were successful.

According to auction results, the range of auction prices for SPP projects ranged from 18 to 29 KZT/kWh. The auction for selection of SPP projects was held in accordance with schedule of auctions for large projects (more than 10 MW of installed capacity of projects) and for small RES projects (installed capacity of projects up to 10 MW inclusive).

The average auction price for solar generation at the end of the auction was about 22,25 KZT/kWh, i.e. the price reduction for SPP was 35.5% compared to the starting value (34.61 KZT/kWh).

According to the auction results, those SPP auctions were void held on:

1) 28.05.2018 – small projects of the Western and Northern zones of the RK UPS, proposed capacity for selection of 10 MW. Reason: lack of sufficient number of participants, one participant was eligible to auction;

2) 08.10.2018 – large projects of the Western zone of the RK UPS, proposed capacity for selection of 30 MW. Reason: lack of

sufficient number of participants, one participant was eligible to auction;

For small SPP projects (the value of the installed capacity of projects up to 10 MW inclusive) auction prices are set in the range from 18 to 29 KZT/kWh, the average price reduction for small projects SPP was 34%. During SPP small projects auctions 7 were selected.

On large SPP projects (projects value over 10 MW) in the course of the auction, there were selected 5 projects, auction prices were in the range of 18.6 to 25.8 KZT/kWh, the average price reduction on large SPP projects made 36,11%.

The maximum auction price value for SPP projects in 2018 was 29 KZT/kWh, this price will be the starting for auction for selection of SPP projects in 2019.

The BioPP auction results

According to the schedule of auction for selection of RES projects in 2018, two auctions for selection of BioPP projects were held. The first

– for selection of small projects (installed projects value of up to 10 MW) 5 MW were offered for selection, the second – for selection of small projects (autumn series), 10 MW of installed capacity was offered for selection. One auction was declared to be successful.

According to the auction results, one project with the installed capacity of 5 MW was selected, the auction price was at the level of 32.15 KZT/kWh, a decrease against the starting auction price (32.23 KZT/kWh) was 1%.

According to the auctions results, the BioPP auctions held on October 11, 2018 were void – small projects of all Zones of the RK UPS, proposed capacity for selection of 10 MW. The auction were void due to the inability to provide 130% of the level of supply relative to the declared demand.

Information on auction winners are given in table 2.

Tab. 2 Auction winners for selection of RES projects in 2018

Ser. No.	Auction date	Winner name	Project capacity, MW	Auction price, Tg / kWh	Project type	Project amount
1	23.05.2018	Zenchenko and company LP	2	18	WPP	small
2	23.05.2018	Vichi LLP	7	18.01	WPP	small
3	23.05.2018	Ventum Energy LLP	4.95	18.99	WPP	small
4	23.05.2018	EastWindEnergy LLP	4.95	19.99	WPP	small
5	23.05.2018	Ivan Zenchenko LLP	2	22.53	WPP	small
6	24.05.2018	ZHEL ELEKTRIK LLP	50	17.49	WPP	large
7	29.05.2018	LLP "VES Zhangiz"	5	21.5	WPP	small
8	29.05.2018	LLP "VES Service"	10	21.7	WPP	small
9	05.06.2018	Alcor Energy LLP	4.95	22.65	WPP	small
10	05.06.2018	Vostok Wind	10	22.66	WPP	small
11	31.05.2018	ZharykEnergо national energy company LLP	8.6	12.8	HPP	small
12	31.05.2018	Bekzat LLP	7	13.13	HPP	small
13	31.05.2018	LLP "VES Tolkin"	2	13.68	HPP	small
14	31.05.2018	Gidroservis LLP	3	15.19	HPP	small
15	04.06.2018	Kaz Green Energy LLP	5	32.15	BioPP	small
16	06.06.2018	URBASOLAR SAS	5	28	SPP	small
17	06.06.2018	Technobasalt LLP	3	28.99	SPP	small
18	06.06.2018	Hydroenergy company JSC	10	29	SPP	small
19	07.06.2018	MISTRAL ENERGY LLP	50	25.8	SPP	large
20	05.10.2018	ZHEL ELEKTRIK LLP	100	17.39	WPP	large
21	05.10.2018	Energо Trust LLP	50	19.5	WPP	large

22	05.10.2018	Shokpar Wind power plant LLP	50	19.98	WPP	large
23	05.10.2018	Ivesto LLP	50	20.5	WPP	large
24	10.10.2018	KazGidroOperating LLP	13.88	14.85	HPP	large
25	10.10.2018	Karatal HPP cascade LLP	21.6	14.9	HPP	large
26	10.10.2018	Korinskaya HPP-2 LLP	26	15.48	HPP	large
27	16.10.2018	ZHEL ELEKTRIK LLP	50	20.9	WPP	large
28	16.10.2018	Shokpar Wind power plant LLP	100	22.58	WPP	large
29	17.10.2018	Dala Solar LLP	2	18	SPP	small
30	17.10.2018	Hydroenergy company JSC	10	19.58	SPP	small
31	17.10.2018	DSTO Solar LLP	10	19.6	SPP	small
32	17.10.2018	KK-KIUSEN LLP	10	19.63	SPP	small
33	18.10.2018	Hydroenergy company JSC	50	18.6	SPP	large
34	18.10.2018	Avelar solar technology LLC	20	18.8	SPP	large
35	18.10.2018	Avelar solar technology LLC	50	22.5	SPP	large
36	18.10.2018	Shell Kazakhstan B.V. Branch	50	22.9	SPP	large
TOTAL:			857.93			

3 Factors affecting the results of the auction

The introduction of auctions mechanism demanded several years in preparation and adoption of amendments to the existing legislation in supporting of the renewable energy sector development.

In order to stimulate investors to participate in the auction, the world experience of the auction was studied, on the basis of which, and taking into account the specifics of the electric energy market, the rules of the auction were developed.

In order to form objective market prices and create a full-fledged competitive field, it was determined that the Ministry of Energy should establish a schedule of auction for the calendar year, which specifies the main parameters of the auction – starting auction price, technology type, required volume of installed capacity, projects size (small or large), location of the renewable energy facility, auction date and time. The data in the schedule is not subject to change, which sets certainty for all participants.

Conducting auctions separately for small and large projects was done to create working conditions in the industry, both for well-known foreign and Kazakhstan investors who do not

have much experience in implementing renewable energy projects. Thus, the principle of access to the market for all stakeholders and the development of competence in the field of renewable energy projects within Kazakhstan was ensured.

In preparation for the launch of the first auction, it was decided to hold two separate sessions of the auction – spring and autumn, so that between the sessions there would be an opportunity to work out proposals and comments that could come from market participants during the auction. Also, as a result of the first series of auction trades, the market received price signals, which investors were able to focus on in preparation for participation in the autumn series of auction trades.

The rules of the auction set standard qualification requirements for all market participants – legal compliance.

These requirements allow both Kazakhstan and foreign investors to participate in the auction on equal terms.

In order to select companies that have the financial ability to implement projects, it is

necessary to make a financial guarantee for all participants in the amount of 2000 KZT/kW of projects installed capacity. This financial guarantee in the form of bank guarantee or standby letter of credit must be submitted by the auction participant in due time before the auction starts in favour of the Financial Settlement Center (the Financial Settlement Center for RES support LLP) and confirms the seriousness of intention of the participant in the implementation of the project. During auctions KZT 8 billion was received as financial guarantee from the participants.

The auction was conducted in an electronic trading system, which eliminates interference in the course of human resource trading, ensures transparency and transparency of the auction.

In order to determine the auction winners and auction prices, it was decided to apply a unilateral auction, the starting price was set by the Ministry of Energy by types of renewable energy sources, auction participants are prohibited to submit applications above the starting auction price. The auction winners are announced according to the lowest prices offered.

It should be noted that during the preparation of the auction the participants were offered free land plots and points of connection to them for the implementation of renewable energy projects. Due to the fact that there are technical limitations on the connection to the electric grid, the existing restrictions were "sewn" into the software and were taken into account when calculating the auction prices.

It should be noted that in order to create a competitive field, the Rules of the auction provide for high requirements to the level of competition, so the auctions will be declared to be void, if there are less than three participants and the level of demand at less than 150% of the volume offered for auction. For this reason, of the 10 auctions held in the spring series 2 was declared invalid.

Further to the autumn series of auctions, the Rules of the auction were amended to mitigate the requirements for competition in the selection of RES projects – the presence of at least two participants and at the level of demand less than 130% of the volume offered for the auction.

The mechanism of state support for the development of the renewable energy sector based on the guaranteed purchase of electricity produced by RES at auction prices. The key element in implementation of this mechanism is

the the Financial Settlement Center for the support of RES LLP (hereinafter – the FSC of RE LLP), the main function of which is the centralized purchase and sale of electric energy produced by RE facilities.

According to results of auction, winners sign a electric energy purchase agreement with the FSC of RE LLP, the terms of which guarantee the purchase of all generated electric energy within 15 years from the date of commissioning of the RE facility at the auction price with annual indexation of the tariff after year of the station operation. When signing the purchase agreement, the winner should provide the FSC of RE LLP with financial guarantee of performance of the contract in the amount of 10 000 KZT/kW of the installed capacity of the project, which serves as insurance of the project implementation obligations within the established deadlines. If, for any reason, the auction winner does not build the station on time, he will lose financial guarantee, while these funds will go to the reserve fund established under the the FSC of RE LLP.

In order to neutralize risks of non-payment, under the FSC of RE LLP it was established a reserve fund, which accumulates 3% of the annual turnover of the RES sector, which ensures the reliability of payments to investors.

In order to develop the renewable energy sector in Kazakhstan, investors are guaranteed:

- ✓ purchase of all generated electricity for 15 years at auction prices;
- ✓ annual tariff indexation;
- ✓ priority dispatch of RE facilities;
- ✓ exemption from payment for services of electric grid companies.

In preparation for the launch of the auction for the Government of Kazakhstan has made a change in the approach of indexation of auction prices for RES projects, in particular, changes in the current formula of indexation of auction prices, taking into account the change in the exchange rate of the national currency to convertible currencies by 70%, and to the consumer price index (CPI) by 30%. These changes are aimed at reducing the currency risks of investors when the exchange rate of the national currency changes. Table 3 shows the main design elements of the auction, which affect the formation of auction prices.

The conditions created for investors contributed to the high interest in the implementation of RES projects in Kazakhstan, the auction and the subsequent construction of

RES projects will be an important step in Kazakhstan's transition to a green economy.

Tab. 3 Auction design elements, affecting the formation of prices

<p>Auction demand</p>	<ul style="list-style-type: none"> • Demand is set by the Ministry of energy for 2018 and does not change during the year • Demand is set separately by types of RES, project sizes (small and large) and by the demand of project location on the territory of the country • Two rounds of auction bidding (spring and autumn) • The second round of auction trading took place in autumn 2018, following the results of the first round, the market received price signals and the total value of the offer for various types of RES
<p>Qualification criteria</p>	<ul style="list-style-type: none"> • Standard qualification requirements for all participants • Necessity to make financial guarantee
<p>Choice of winners</p>	<ul style="list-style-type: none"> • When determining the price, the method of unilateral auction is used. The winners are determined by the lowest prices. • Non-price factors are considered when determining the winners in the course of pricing – the possibility of connections volume and number of connections to the electric grid
<p>Investor risk</p>	<ul style="list-style-type: none"> • Annual tariff indexation • Mandatory purchase of all electric energy • Priority dispatching, free transmission of electric energy