

Renewable Energy Auctions in Kazakhstan



Kazakhstan is

A map of Kazakhstan is centered at the top of the image. It is a dark blue silhouette with a lighter blue outline. Four small red squares are placed on the map: one in the northwest, one in the southwest, one in the south, and one in the northeast. Dotted lines extend from these squares to the corresponding data blocks below the map.

18
mln.
people

2,7
mln. km²
9th biggest in the world,
2nd biggest — among the
CIS countries

\$133,6
bln.
GDP

\$7
510,08
GDP per capita

Kazakhstan GDP bln.



Kazakhstan GDP per capita



According to the World Bank data

General Description of Kazakhstan Power System

25 thousand km of National Power Grid

21,7 GW_t of installed capacity

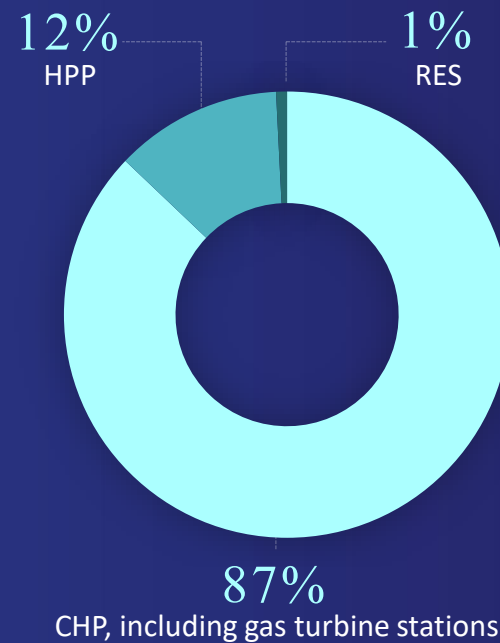
18,7 GW_t of available capacity

Grid infrastructure of the country includes

200 — 500 kV National Electricity Grid
(managed by the system operator JSC «KEGOC»)

Up to 110 kV Regional Electricity Grid
(managed by regional electricity grid companies)

Generation mix



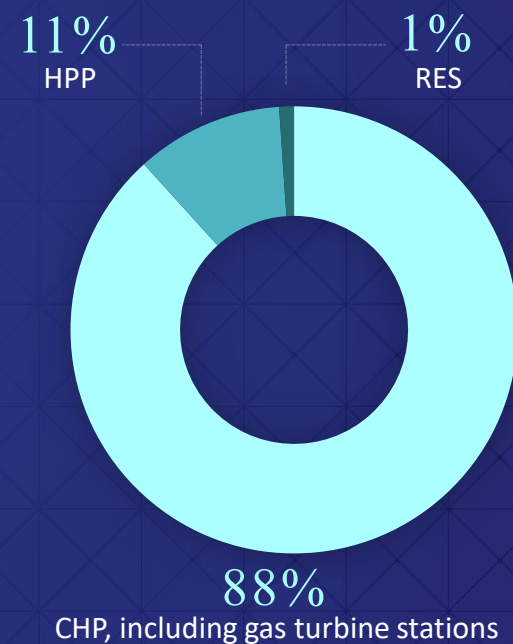
Key performance indicators

Electric power produced in 2017 — 102 bln. kWh

- Thermal plants, including gas turbine stations — **91 bln. kWh**
- Hydro power plants — **10 bln. kWh**
- RES — **1,1 bln. kWh**

Electric power consumption in 2017 — 97 bln. kWh

Electric power production profile for 2017



RENEWABLE ENERGY RESOURCE POTENTIAL IN KAZAKHSTAN



Wind

920

bln. kWh a year



Solar

3000

hours of solar radiation a year



Hydro

62

bln. kWh a year

With UNDP support we have developed electronic resource atlases:

Solar atlas: atlassolar.kz

Wind atlas: atlas.windenergy.kz

Detailed RES research information: rfc.kegoc.kz

Strategic targets for RES development

2017

50 renewable energy facilities

340 MW of total capacity



WPP 110 MW



SPP 60 MW



HPP 170 MW

2020 target

1 700 MW of total capacity



WPP 933 MW



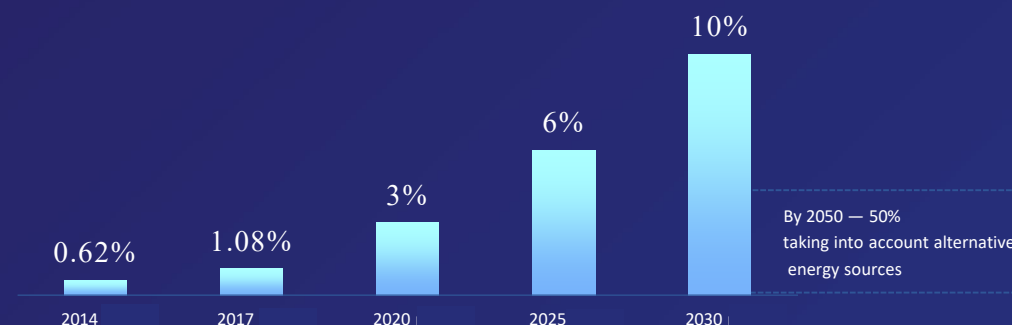
SPP 467 MW



HPP 290 MW

Biogas 10 MWMW

The share of RES in the total volume of electric power production



The largest power plants

- «The first wind power plant» (45 MW)
- «Burnoe Solar-1» (45 MW)
- Korinskaya HPP (28,3 MW)

Under the legislation investors are guaranteed



Project selection process transparency

Auction winner and auction price for every project are determined during auctions held on an independent electronic platform



Guaranteed purchase and payment at auction prices for 15 years

- Conventional power plants sign an agreement with the FSC and purchase renewable energy
- The FSC creates a special Reserve Fund



Priority dispatch of renewable energy



Exemption from energy transmission fees of electric grid companies



The following options of annual Indexation of auction prices:

- for the level of consumer price index (the average CPI indexation level for 2015 — 2017 was 9,3%)
- mixed — 30% for national to foreign currency exchange rate changes and 70% for consumer price index

USD/KZT - 325,530



Auctions

■ **Primary and secondary laws drafting has been completed**

■ **Auction schedule has been approved
(not to be changed)**

■ **Simple and clear mechanism to determine winners**

■ **Independent trading platform**

■ **Ceiling auction prices:**

- Solar power plants— 34.61 KZT per kWh (\$106,5 per MWh)
 - Wind power plants— 22.68 KZT per kWh (\$69,8 per MWh)
 - Hydro power plants — 16.71 KZT per kWh (\$51,4 per MWh)
 - Biogas plants— 32.23 KZT per kWh (\$99,2 per MWh)
- Exchange rate— \$1 — 325 KZT

■ **Winners are automatically granted the right to sign
PPA for 15 years**

The first international renewable energy auctions in Kazakhstan — total capacity 1000 MW, where WPP— 620 MW, SPP— 290 MW, HPP— 75 MW, Biogas plants — 15 MW.

The schedule for the spring auctions

No	RES type	The volume of purchased installed capacity, MW	Unified Power System Zone	Auction time	Auction date	Documents submission deadlines
1	WPP	20	Northern zone	14.00 — 17.00	23.05.2018	28.03.18 — 15.05.18
2	WPP	50	Northern zone		24.05.2018	28.03.18 — 16.05.18
3	SPP	10	Western and Northern		28.05.2018	28.03.18 — 18.05.18
4	WPP	10	Western zone		29.05.2018	28.03.18 — 21.05.18
5	WPP	50	Western zone		30.05.2018	28.03.18 — 22.05.18
6	HPP	20	Northern and Southern		31.05.2018	28.03.18 — 23.05.18
7	Biogas	5	All zones		04.06.2018	28.03.18 — 25.05.18
8	WPP	10	Southern zone		05.06.2018	28.03.18 — 28.05.18
9	SPP	20	Southern zone		06.06.2018	28.03.18 — 29.05.18
10	SPP	50	Southern zone		07.06.2018	28.03.18 — 30.05.18

The schedule for the fall auctions

No	RES type	The volume of purchased installed capacity, MW	Unified Power System Zone	Auction time	Auction date	Documents submission deadlines
1	WPP	50	Northern zone	14.00 — 17.00	03.10.2018	01.08.18 — 25.09.18
2	WPP	250	Northern zone		04.10.2018	01.08.18 — 26.09.18
3	WPP	30	Western zone		08.10.2018	01.08.18 — 28.09.18
4	WPP	50	Western zone		09.10.2018	01.08.18 — 01.10.18
5	HPP	55	Northern and Southern		10.10.2018	01.08.18 — 02.10.18
6	Biogas	10	All zones		11.10.2018	01.08.18 — 03.10.18
7	WPP	30	Southern zone		15.10.2018	01.08.18 — 05.10.18
8	WPP	100	Southern zone		16.10.2018	01.08.18 — 08.10.18
9	SPP	30	Southern zone		17.10.2018	01.08.18 — 09.10.18
10	SPP	150	Southern zone		18.10.2018	01.08.18 — 10.10.18

Land plots and connection points



The State reserves land plots for the construction of renewable energy facilities



Energy transmitting organizations provide and reserve grid connection points for the construction of renewable energy facilities

Admission to auctions

What is required:



Articles of incorporation

(*foreign legal entities shall provide equivalent documents according to the legislation of their country)



Financial guarantee

(bank guarantee/
standby letter of credit)



Contract with the Organizer of the auction



Registration and access to the system

Financial guarantee

The amount of financial guarantee for the participation in auctions is 2000(two thousand) KZT per 1(one) kW of project installed capacity



Applicant, bidder



Financial guarantee



**The Financial Settlement Center for
the support of renewable energy**

Types of financial guarantee:

- Bank guarantee issued through the SWIFT system;
- Standby letter of credit issued through the SWIFT system .

Recovery of financial guarantee









- The bidder did not win the auction;
- The auction winner signed the PPA.

Retaining financial guarantee

The auction winner avoided signing the PPA with the FSC

Trading day scheme

Auctions are held according to the schedule approved by the authorized body.
A trading session lasts 3 hours.
Price determination — unilateral auction method.

Trading session		Auction opening
		Submission of bids for sales, viewing general information
		Bidders can change earlier submitted bids throughout the trading session
		Closing of the trading session
Automatically after closing of the trading session		Calculation of auction prices
		Displaying results in private offices of bidders
1 hour after closing of the trading session		Publication of the Register of winners
		Notifications to bidders about the results of the auction

Submitting bids during a trading session

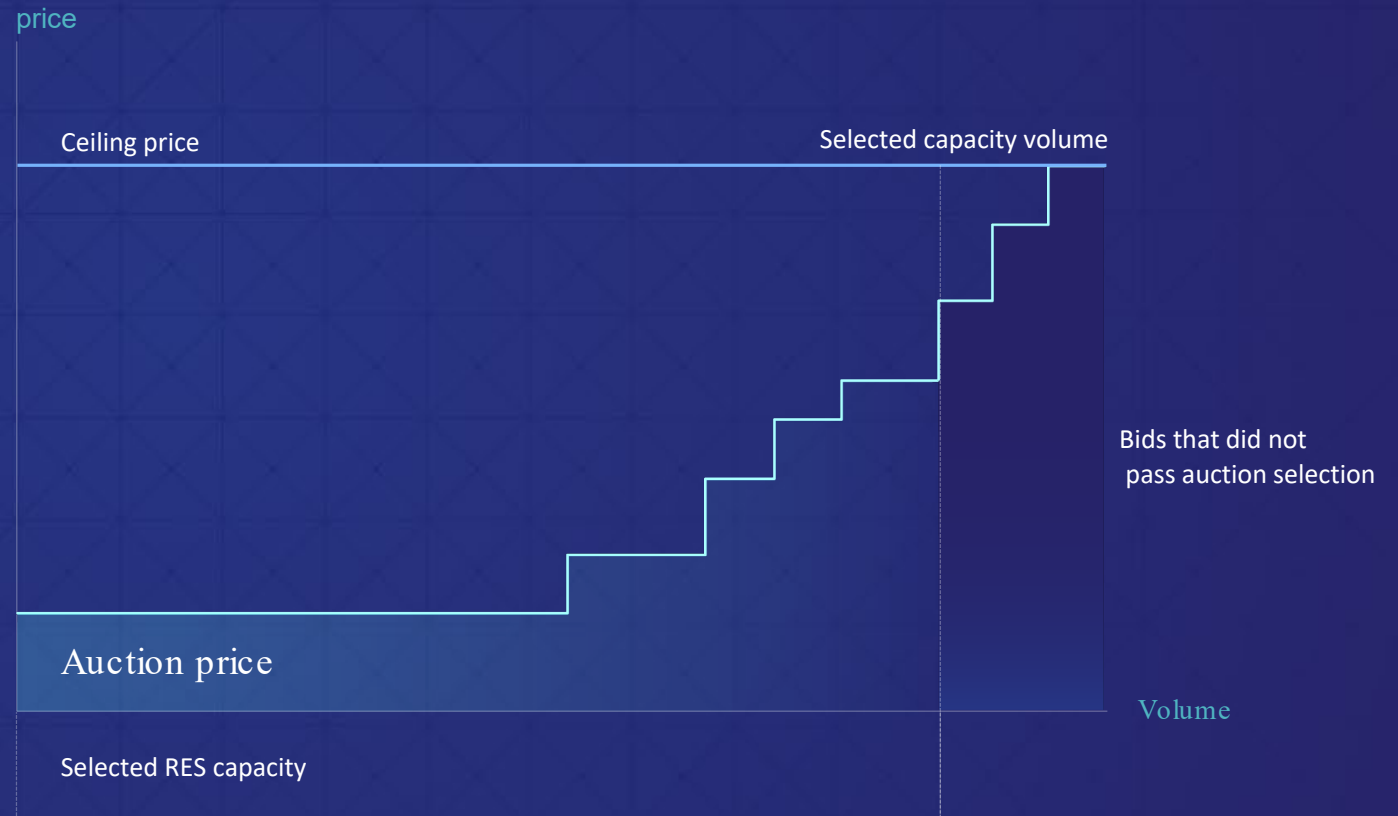
- Bids are submitted starting from the opening of the trading session. Submitted bids can not be removed from the system;
- The submitted bid can be modified by submitting a new one. New bid shall indicate a price lower than that in the previous bid whereas the volume of the earlier submitted bid can not be changed.
- Bid prices shall not exceed the respective ceiling auction prices;
- Bids that coincide with the bid prices of other Participants are rejected;
- Bids that indicate volume exceeding the amount of the financial guarantee are rejected;
- Investors can submit a number of bids for different connection points. Every single bid requires a separate financial guarantee.

Calculation of auction prices

Format — unilateral auction.

Auction prices are determined based on prices declared by the bidders.

- Separate auctions for small (from 0.1 to 10 MW) and large projects (above 10 MW);
- Auction is deemed failed if the number of bidders is less than three and the total supply volume is less than 150% of the total demand value



Declaring the results of the auction



The Organizer of auctions



Sending notifications to participants

In electronic form automatically after the closing of the auction



Publishing the Register of winners on the website of the Organizer

Within 1 hour after the closing of the auction



Sending the results to the authorized body

Not later than 1 (one) working day after the closing of the trading session.

The Ministry of Energy includes the winners of the auction in the siting plan of RE facilities and in the list of energy producing organizations that use RES within five (5) working days

Connection to the grid

Regulations

rfc.kegoc.kz

- Grid rules
- Grid code
- Grid connection contract

Auction



RES list
Siting plan



PPA



Grid connection
contract:



Power plant
comprehensive tests

- Power distribution scheme
- Obtaining technical specifications

The auction winner is obliged

■ To submit the PPA performance bond

= 10 thousand KZT/kWh ($\approx 30\$/kWh$)

■ To sign the PPA with the FSC

Submit an application 60 days after being included in the list of energy producing organizations that use RES.

■ To comply with the deadline for the start of the plant construction — 12 months since the signing of the PPA (notification on the start of construction)

■ To commission the plant:

- SPP — 24 months after the signing of the PPA
- WPP and biogas — 36 months after the signing of the PPA
- HPP — 48 months after the signing of the PPA

■ To ensure high quality forecasting and comply with the generation schedule

The PPA performance bond

The amount of the PPA performance bond is 10 000 (ten thousand) KZT per 1 (one) kW of the project installed capacity



The auction winner



The financial guarantee for participation in the auction



The Financial Settlement Center for the support of renewable energy

Types of the PPA performance bonds:

- Bank guarantee issued through the SWIFT system;
- Standby letter of credit issued through the SWIFT system .
- Cash

Recovery of the performance bond:

Timely commissioning of the RE facility according to the PPA conditions

Retaining the performance bond:

- 30% of the PPA performance bond — if the winner fails to provide a copy of notification on the start of the RE facility construction and installation works within 12 months since the date of the signing of the PPA
- 100% of the PPA performance bond — if the winner fails to provide a copy of the RE facility operational acceptance certificate within the required timeframe:

- SPP— 24 months after the signing of the PPA
- WPP and biogas — 36 months after the signing of the PPA
- HPP— 48 months after the signing of the PPA

You are welcome to participate in auctions

Kazakhstan RES regulations database

rfc.kegoc.kz