

Regional Conference

Prospects for Renewable Energy Development in the Republic of Tajikistan
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Development of small-scale renewable energy in Kazakhstan

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222
Power plants

56%
wear

Available capacity
(as of 01.01.2024)

20,4 GW

Generation at maximum load

15,1 GW

Maximum load

16,6 GW

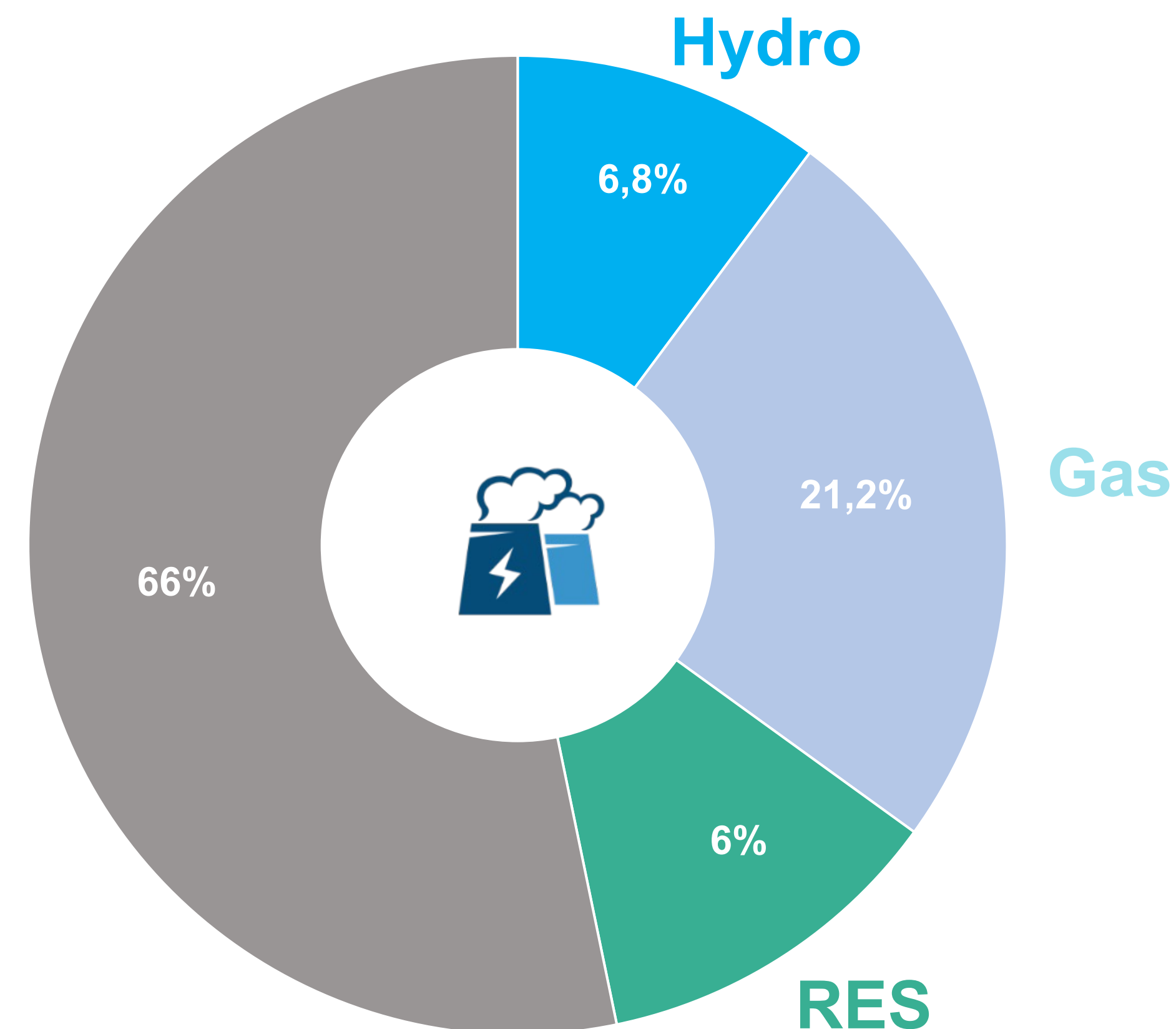
Electricity generated

112,8 billion kWh

Electricity consumed

115,1 billion kWh


Coal





Current situation in the electricity generation sector



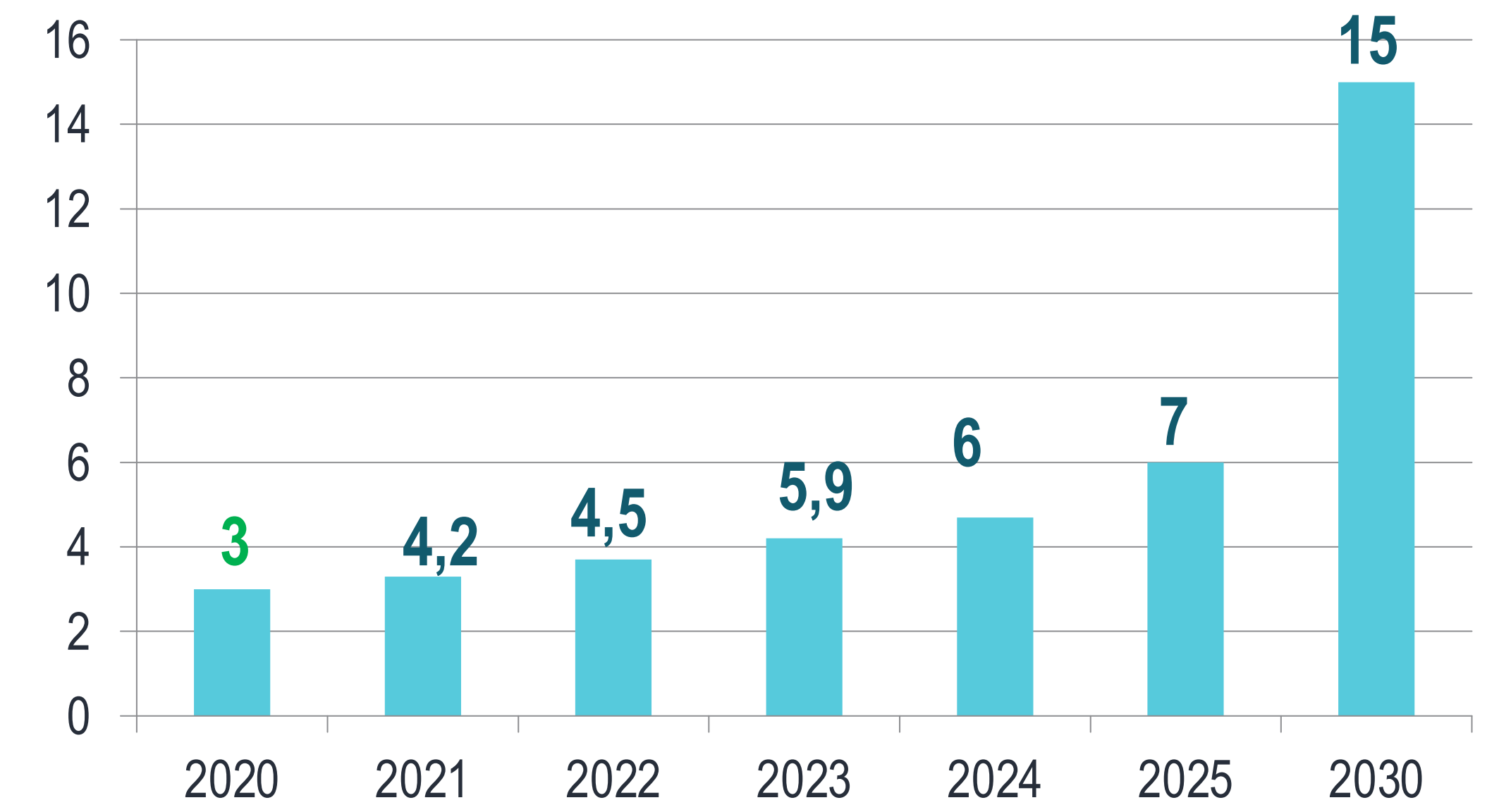
 **148** RES power plants
Total capacity 2,9 GW

Solar	1222,6 MW
Wind	1409,5 MW
Hydro	269,8 MW
Bio	1,8 MW

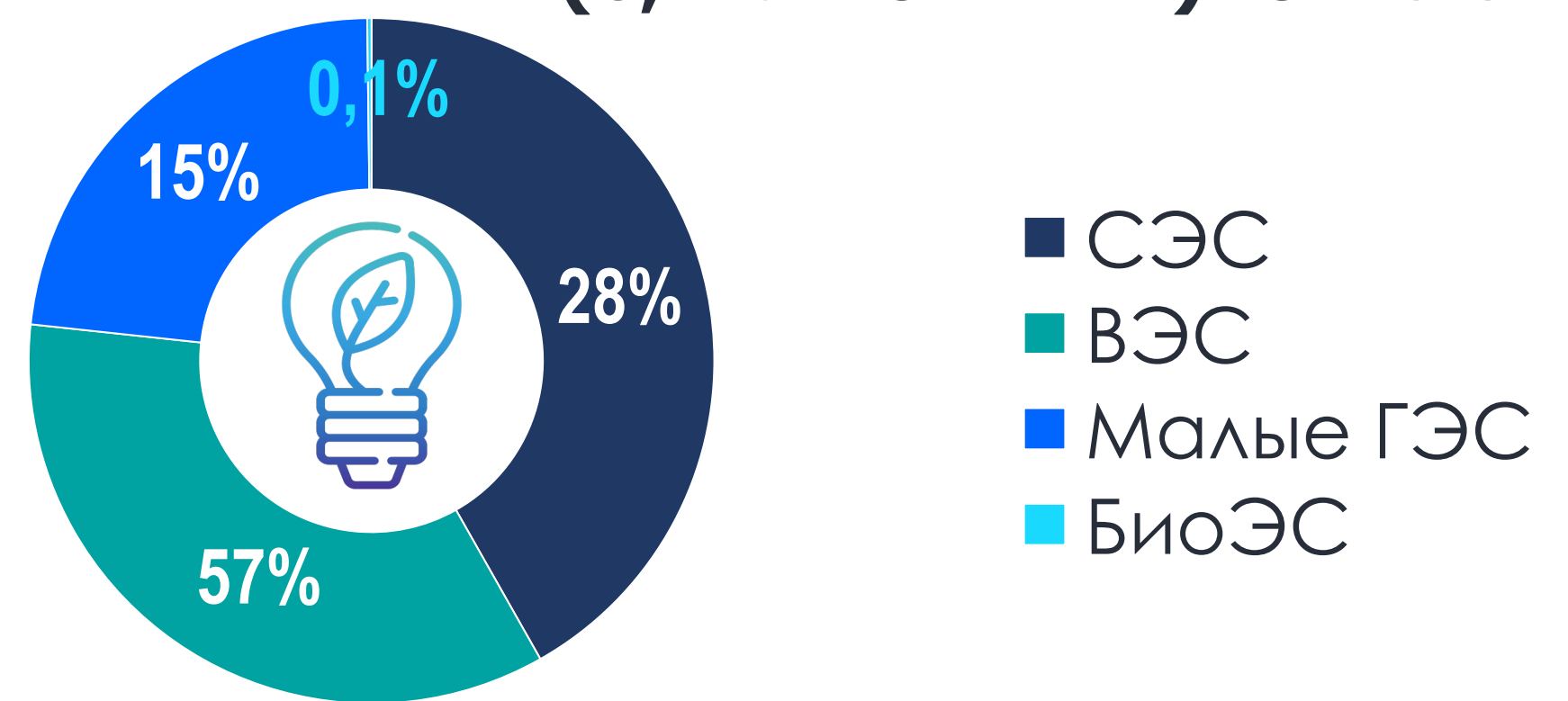
It is planned to implement **21** renewable energy projects with a total capacity of **700** MW by 2027

Share of RES in total energy generation in 2025 – **6 %**

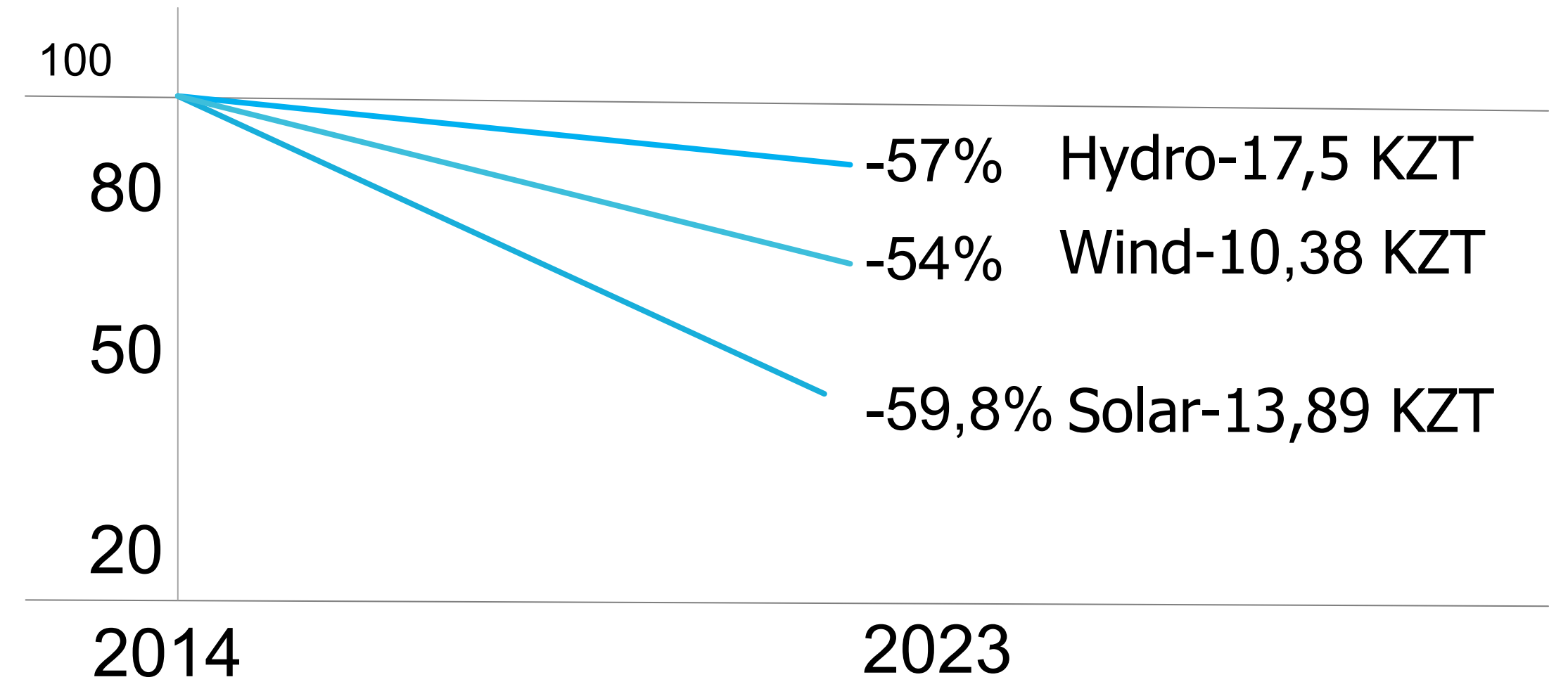
Share of RES in total electricity generation, %



Electricity generation from RES (6,7 billion kWh) for 2023



Tariff reductions by type



PREFERENTIAL CONDITIONS FOR THE DEVELOPMENT OF RENEWABLE ENERGY IN KAZAKHSTAN



Key indicators

1

6,7 GW

Renewable energy projects implemented through auctions

2

5 GW

Large-scale renewable energy projects implemented

3

15% of total generation share of renewable energy sources from total generation in the country in 2030

4

50% of production volume

share of alternative energy sources and renewable energy sources by 2050.

Уголь

34,3%

АЭС*

4,7%

Гидро

10,8%

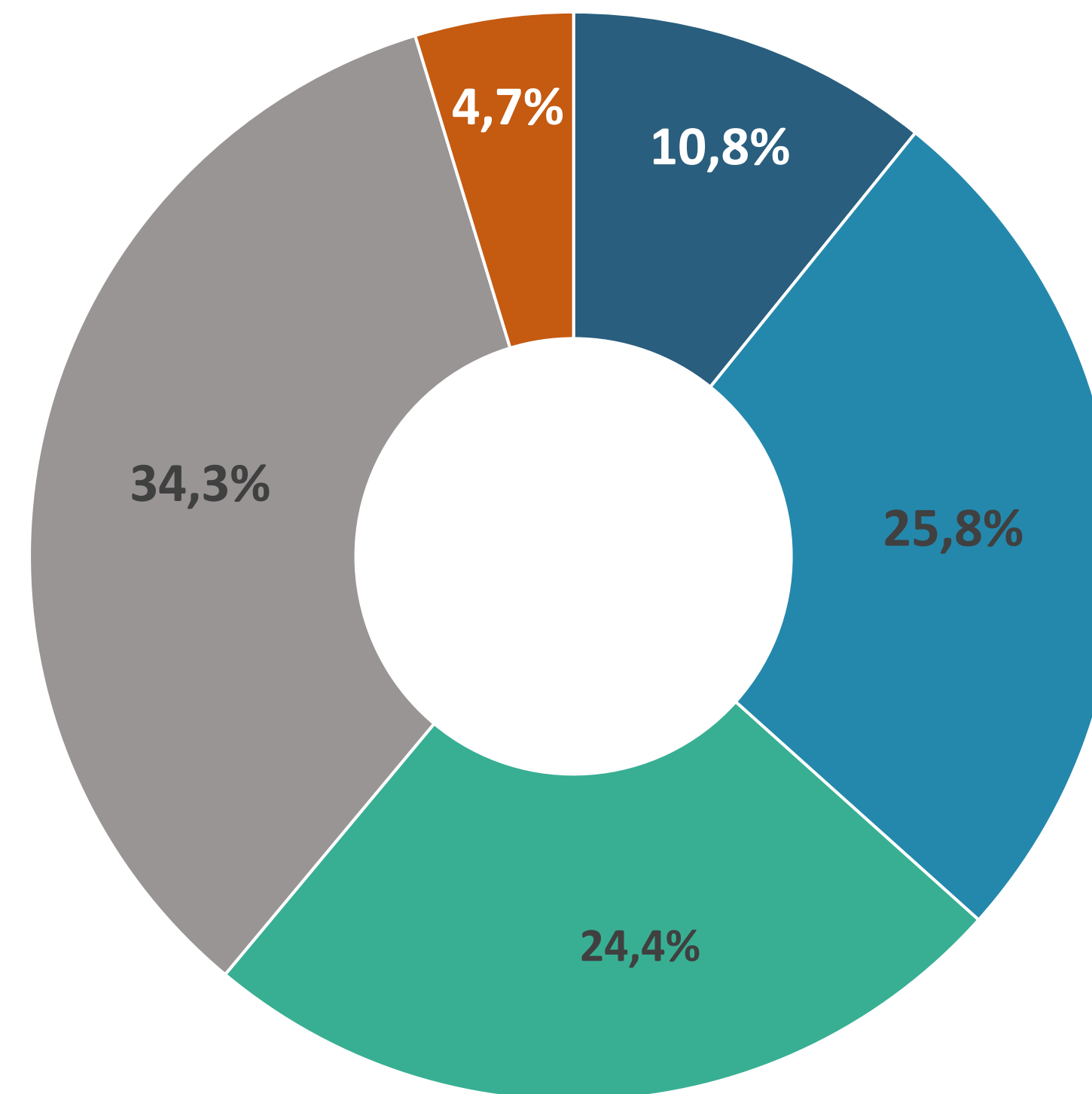
25,8%

Газ

ВИЭ

24,4%

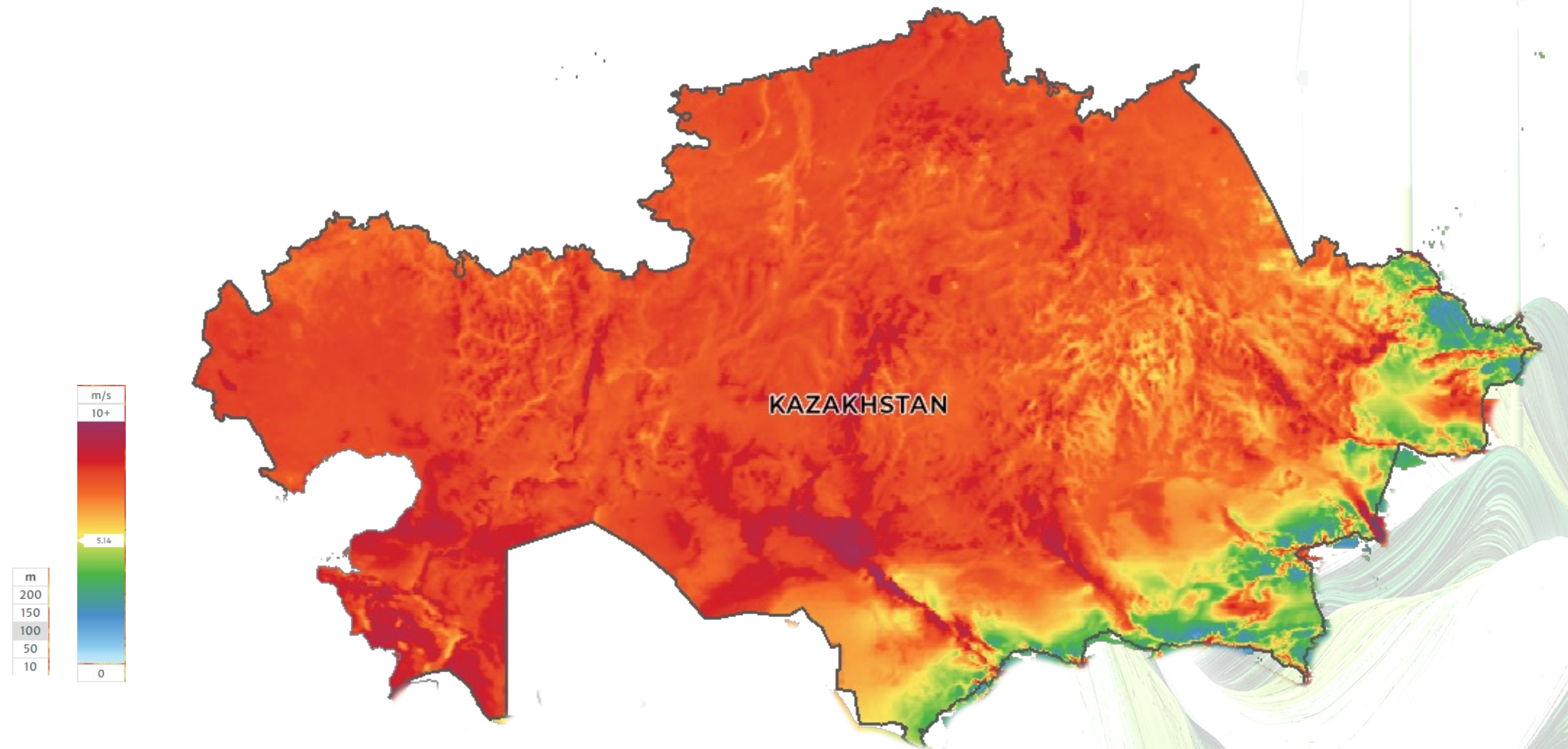
2035 г.



The Republic of Kazakhstan

- occupies the 9th place in the world by area of territory
- significant potential of wind energy
- in the near future, it has every opportunity to take a leading position in the world in the development of wind generation, which will be:
 - as stable as possible;
 - evenly distributed (throughout the country);
 - minimally affect the growth of tariffs for end consumers.

Wind potential map



The climate in Kazakhstan is favorable for the construction of wind power plants due to the presence of wind corridors with a wind speed of more than 5 m/s, which is necessary for the operation of wind turbines.

The Caspian region, central and northern Kazakhstan, as well as southern and southeastern Kazakhstan have the highest wind energy potential.

According to the Ministry of Energy of Kazakhstan, the country's wind energy potential is estimated at 920 billion kWh of electricity annually.

SOLAR POTENTIAL MAP

Solar energy has huge potential as a renewable energy source in Kazakhstan due to sparsely populated large territories and climatic conditions, especially in the south of the country, where the sun shines from 2,200 to 3,000 hours a year

In Kazakhstan, the solar energy potential is 2,5 billion kWh. The most preferred areas for solar generation are the Aral Sea region and the southern regions of Kazakhstan, experiencing a shortage of electricity.

