



«QAZAQ GREEN»  
RES Association

# Development of renewable energy sources in Kazakhstan: challenges and potential

February 2023



# “Qazaq Green” RES Association



Single Platform for national and international players in renewable energy



Goal – is industry consolidation to bring together actors in the field of renewables in order to create favorable conditions for development of the sector



Mission - formation of a holistic position of association members to obtain attractive conditions for investing in RES projects

## Accreditation of association:



Ministry of Energy of the Republic of Kazakhstan



Ministry of ecology, geology and natural resources of the Republic of Kazakhstan



## Members



## Accredited observers



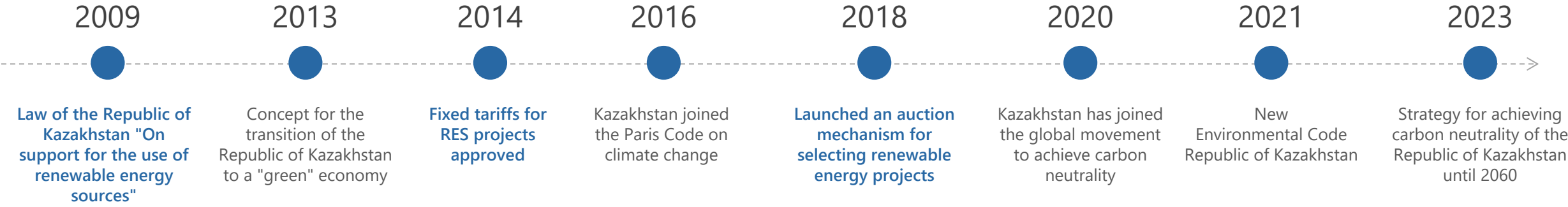
## Partners



For more details please visit our web-site [www.qazaqgreen.kz](http://www.qazaqgreen.kz)

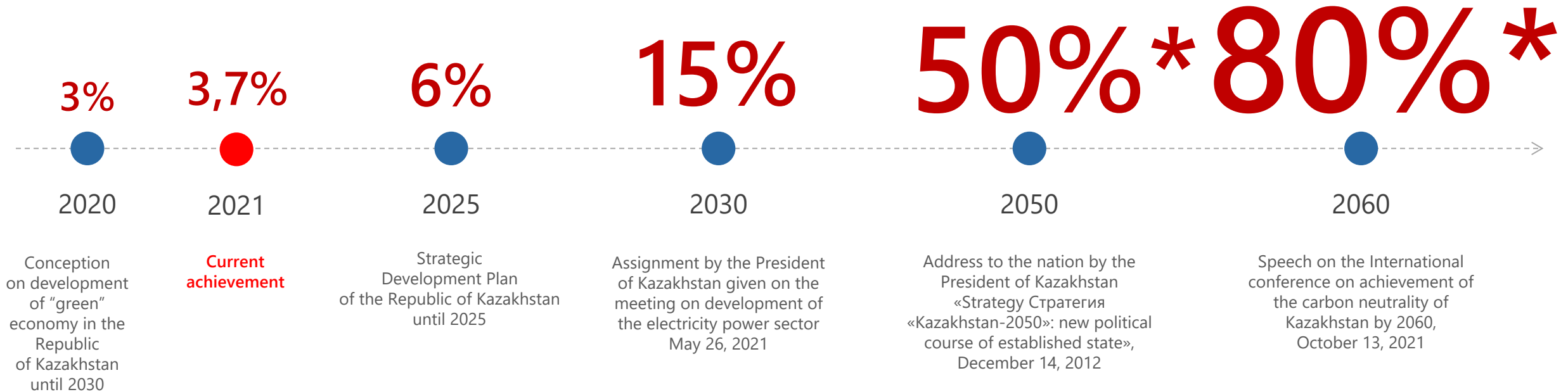
# Kazakhstan is progressively developing RES and is committed to international climate commitments

Development of the state policy of the Republic of Kazakhstan on RES and climate



# Kazakhstan set an ambitious goals for RES development

Strategic indicators for share of electricity generated by renewables in total electricity power production



\* Renewable energy sources and alternative energy sources

# Legal basis for development of renewables in Kazakhstan

## Existing legal norms

- 1 Guaranteed purchase of all electricity produced and supplied to the grid
- 2 Distribution of electricity from renewable energy sources through the Settlement and financial center (RFC) to conventional consumers
- 3 Exemption from payment for the transmission of electrical energy
- 4 Providing investment preferences (customs and tax) under the Entrepreneurial Code
- 5 Creation of a reserve fund in the Settlement and financial center (RFC)
- 6 Agreement on connection of RES facilities to the grid
- 7 Annual indexation of tariffs (depending on the exchange rate and inflation)

## New legislation norms since 2021

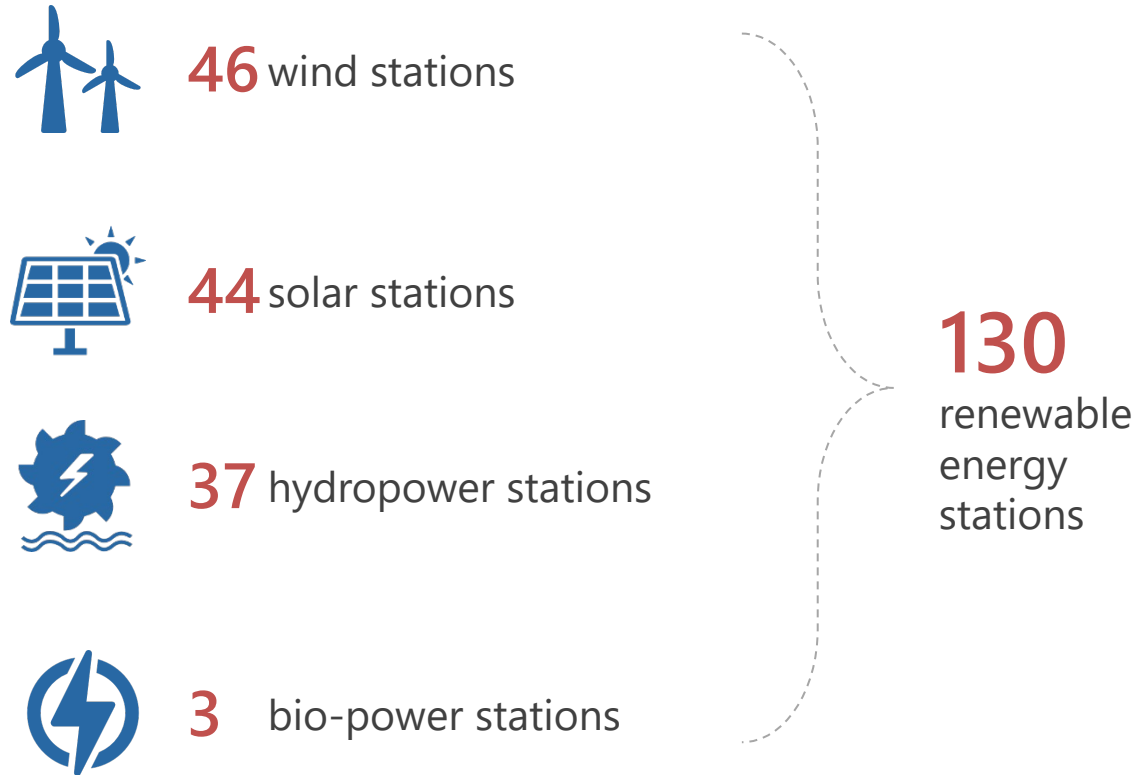
- 1 Construction of maneuverable (flexible) capacities and stations
- 2 Extension of PPA-contracts from 15 to 20 years
- 3 Financial support for the Settlement and financial center (RFC) from the Government in case of default
- 4 End-to-end tariff for renewables (considering the costs of renewable energy sources as a surcharge over the ceiling tariff)

Source: Law «On electric energy», Law «On support for RES»

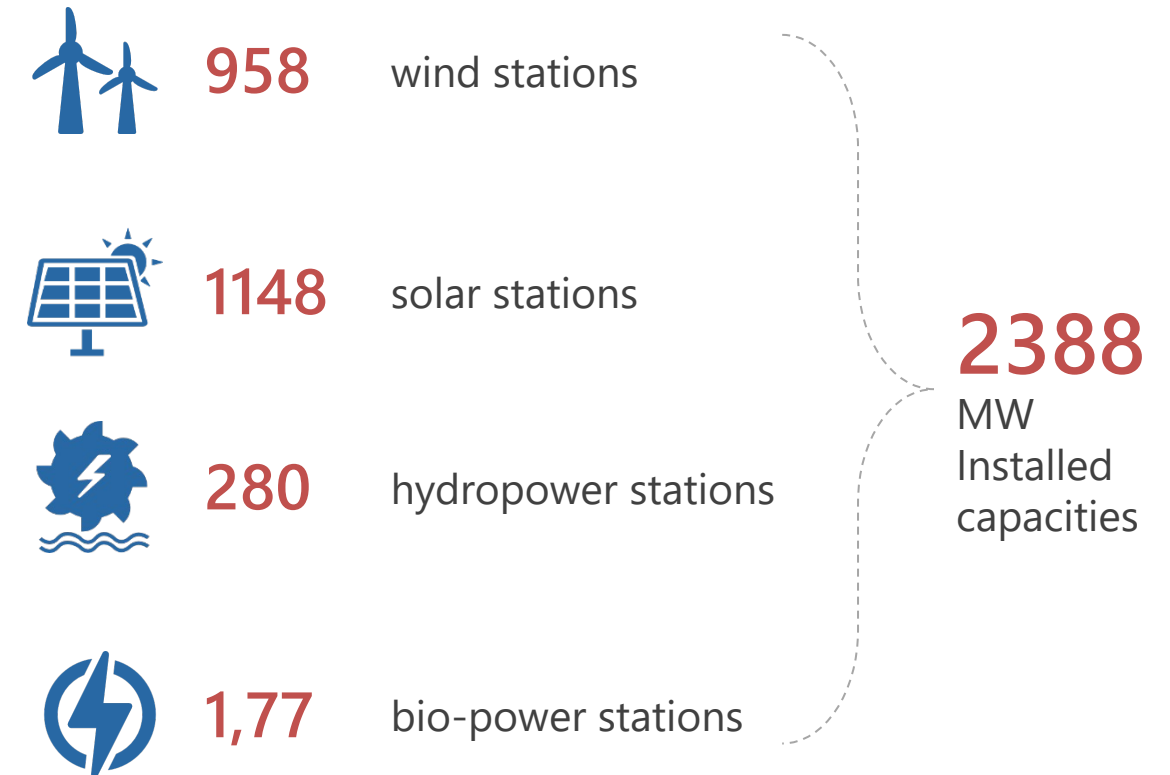
**In 2022-2023 the Ministry of Energy launched the reform of the electric power industry:  
Single Purchaser and balancing electricity market**

# Monitoring of RES development in Kazakhstan

## Number of RES stations on the first half of 2022



## Installed capacities of renewables on the I first half of 2022, MW



# Potential of development of renewables in Kazakhstan



## Development of corporate market of renewables

1

After the announcement by the President of the Republic of Kazakhstan of a commitment to achieving carbon neutrality by 2060 in Kazakhstan, many industrial enterprises (oil, mining, IT and telecommunications sectors) have expressed interest in reducing their carbon footprint through the introduction of renewable energy

2

Many companies are actively implementing ESG principles into their corporate policies.



## Development of small-scale renewable energy projects

1

The potential of 5-10% of households is equivalent to the construction of a large TPP with a capacity of 500 – 1000 MW

2

Connection to the electric grid of the so-called home installations of solar power plants on the scale of the region will contribute to improving the reliability of the network as a whole, unloading overloaded nodes and reducing electrical energy losses.



## Development of hydropower plants projects

### Hydropower potential of Kazakhstan

**8-9 bln. kWh per year** Average output of all HPP

**170 bln. kWh per year** Hydropower potential

**62 bln. kWh per year** Technically possible potential

**30 bln. kWh per year** Economically feasible potential

### Key problems:

**Lack of a regulatory framework, excessive requirements of the system operator for the implementation of such projects**

**High cost of installations, lack of government support measures, difficulties with connecting to networks**

**Difficulties in obtaining land plots, short deadlines for putting projects into operation, low tariffs at auctions**

# Development of RES became a driver of transformation of electric power sector

## Problems of the electricity industry in Kazakhstan

- 1 Deficit of electricity power generation (highly increase consumption by industry and digital mining sectors)
- 2 Obsolescence of power generation equipment on traditional coal stations
- 3 Increase of volume of emergency repairs on traditional coal stations
- 4 Low diversification of power generation, dependence of generation by coal stations for 70%
- 5 Dependence on electricity flows from Russia in the framework of balancing of the grid

## Challenges in the RES sector in Kazakhstan

- 1 The earliest possible implementation of projects of maneuverable (flexible) capacities for balancing of work of RES stations
- 2 Implementation of RES projects with energy storage through the auction mechanism
- 3 Stimulating and supporting the development of distributed generation (widespread use of RES by households and businesses)
- 4 Development of B2B contracts and introduction of RES for consumption by industrial enterprises
- 5 Formation of attractive conditions for investment in the renewable energy sector in Kazakhstan (increase auction capacities, improving the conditions for tariff indexation, development of the practice of project auctions, etc.)



# II International business festival on renewable energy Qazaq Green Fest, May 25-26

Qazaq Green Fest will be organized in the heart of National park Burabay – Rixos Borovoe Hotel



Partners of Qazaq Green Fest

Organizer



АССОЦИАЦИЯ ВИЭ  
QAZAQ GREEN

Official Support



Ministry of Energy  
Republic of Kazakhstan

Hosting partner





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