



MINISTRY OF ENERGY OF THE
REPUBLIC OF KAZAKHSTAN



Developments in the energy sector of the Republic of Kazakhstan

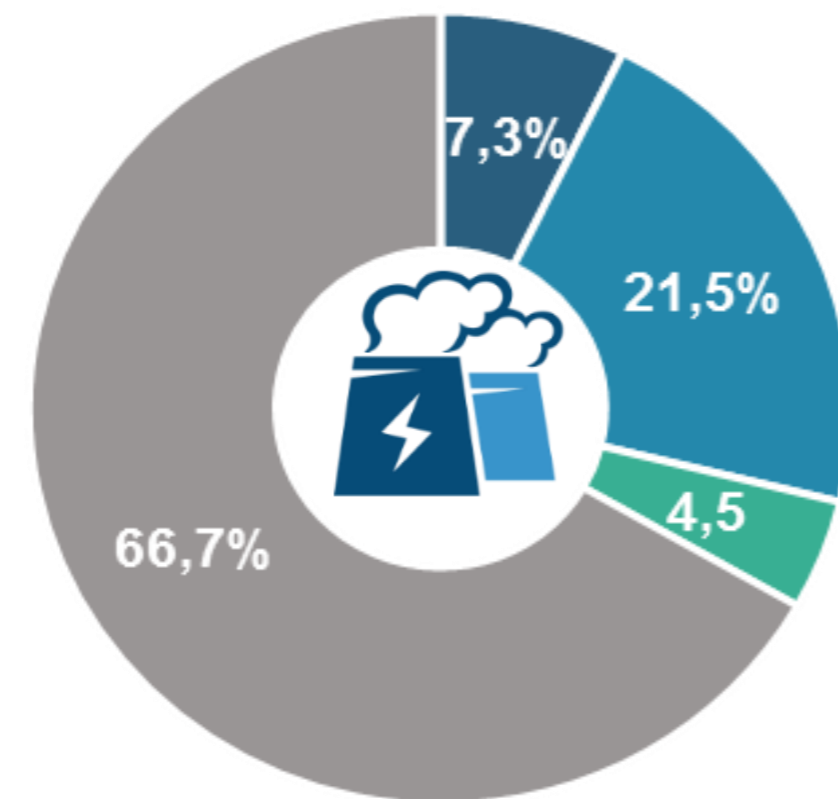
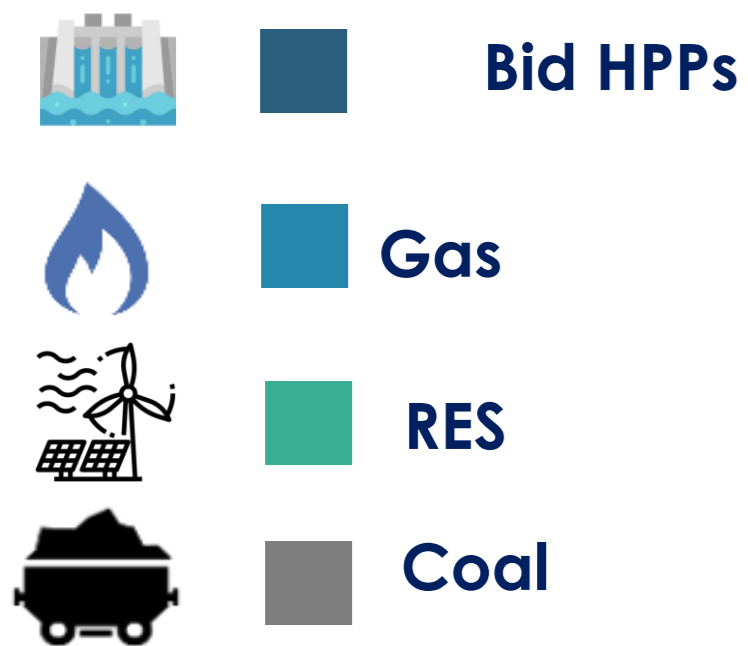


213
power plants



24,77 GW
Installed capacity

Kazakhstan's generation structure



As of November 2023, Kazakhstan has **141 RES facilities** with a capacity of **2,715.8 MW** (excluding large hydropower plants)



Solar
1197 MW
44 PPs



Wind
1246,6 MG
55 farms

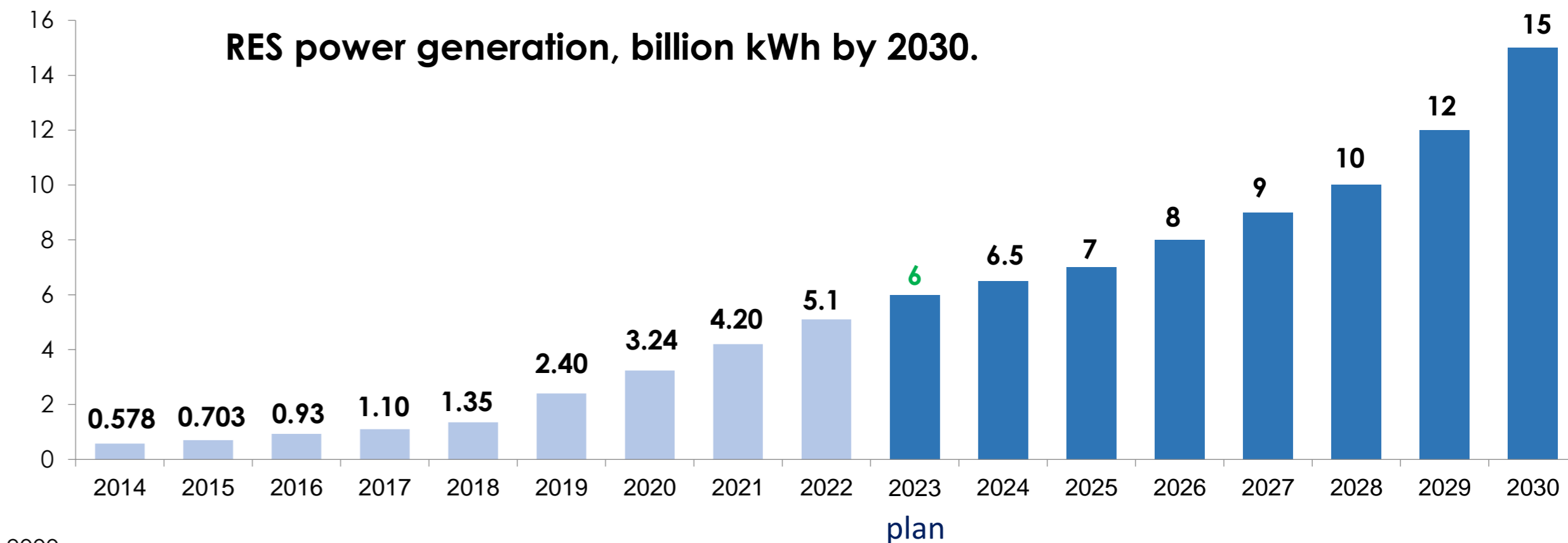


Hydro
269,6 MW
39 PP

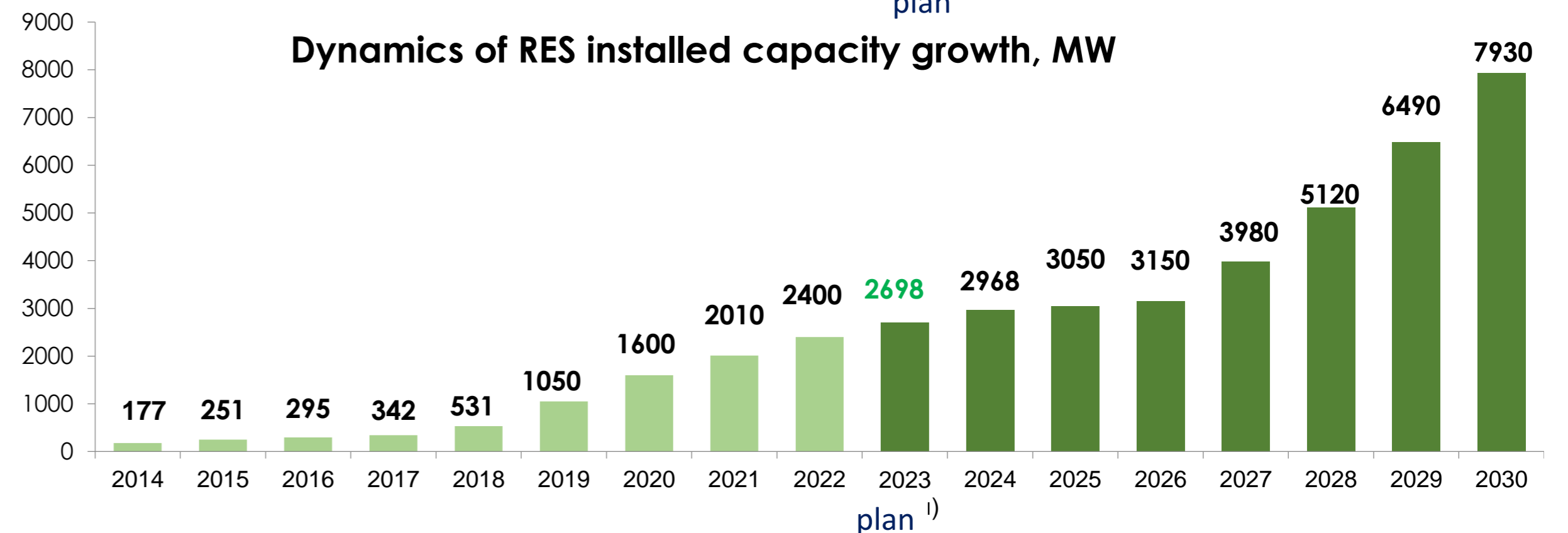


BioPP
1,77 MW
3 PP

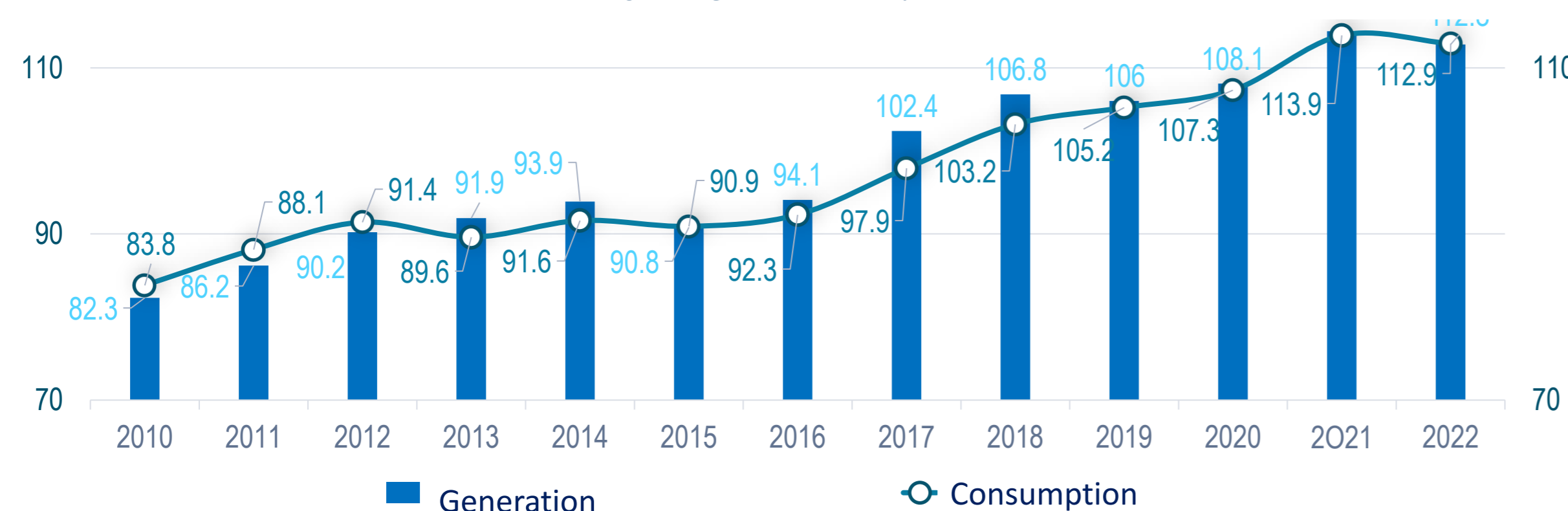
RES power generation, billion kWh by 2030.



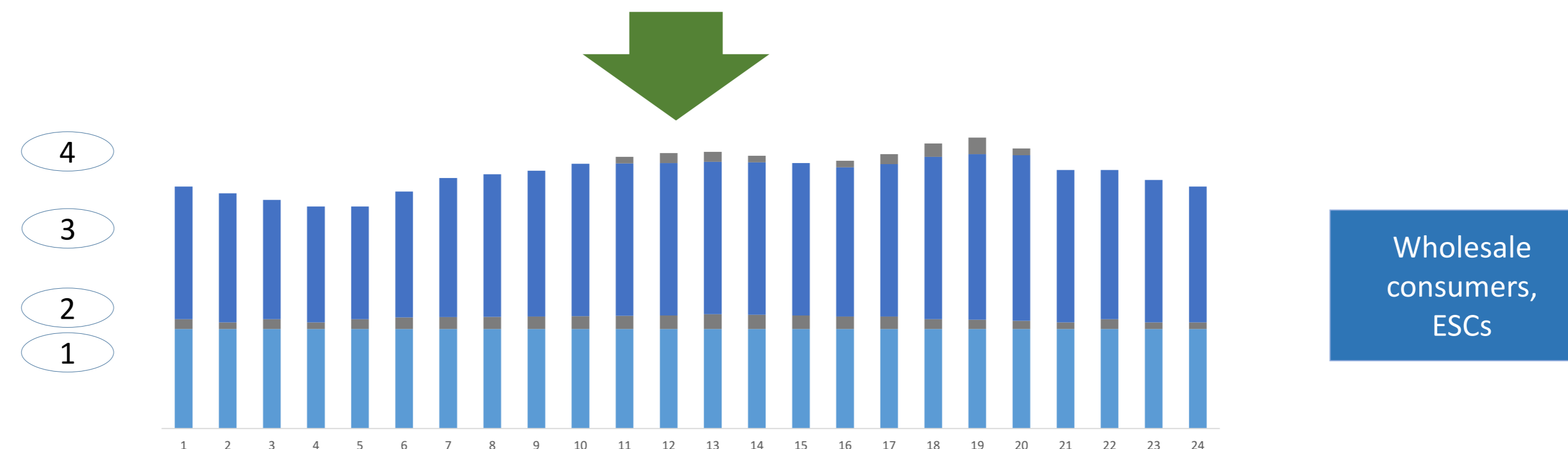
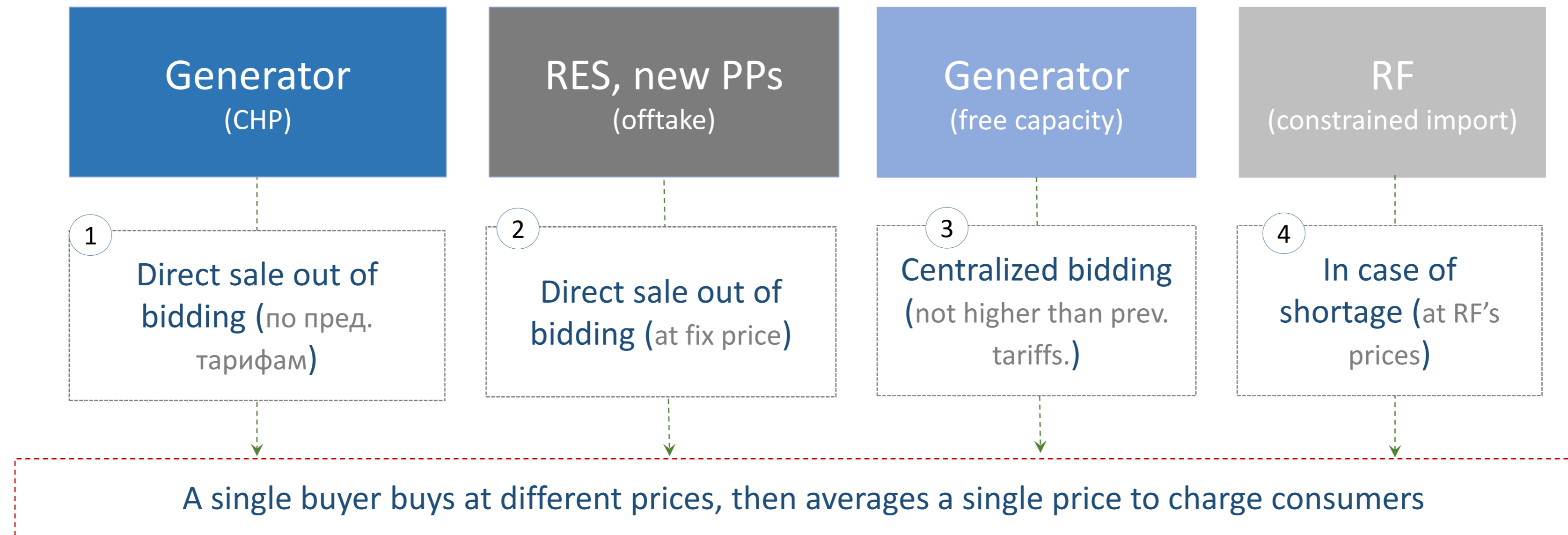
Dynamics of RES installed capacity growth, MW



Electricity generation/consumption dynamics in Kazakhstan billion kWh.



Electricity purchase and sale process description



INTRODUCTION OF BALANCING ELECTRICITY MARKET

Key principles

Physical and financial resolution of imbalances in the energy system

Introduction of **targeted financial responsibility** of entities for created **imbalances in the energy system**

Introduction of hourly tariff differentiation – smoothing of peak load

Impact

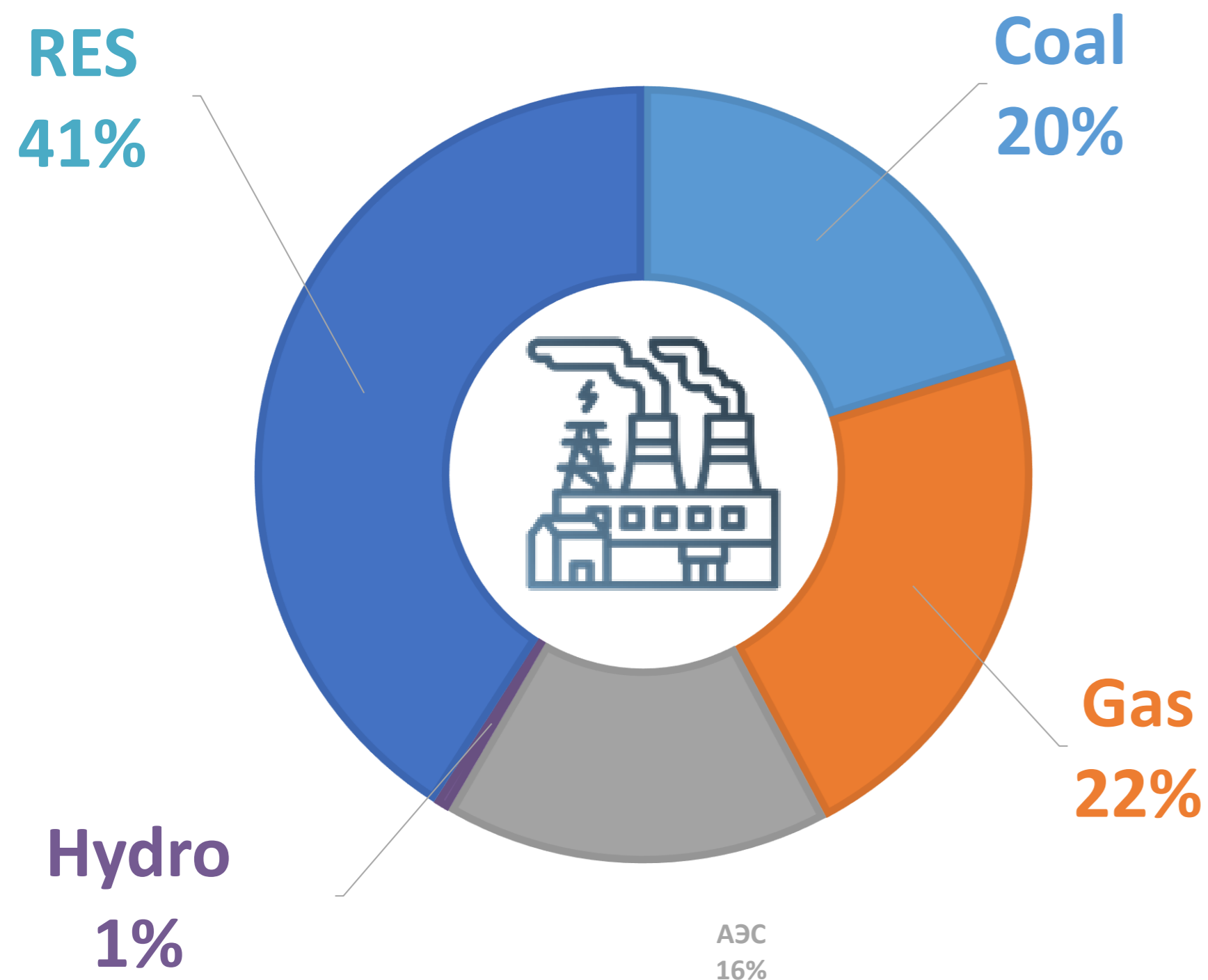
Smoothing of peak load in the power system

Reducing dependence on neighboring power systems

Reducing the impact of unstable RES on the daily schedule

Energy balance 2035

Commissioning of new capacities



Total: 17.4 GW

Kazakhstan's Concept on the Development of the Electric Energy Industry for 2023-2029

MEETING THE ELECTRICITY NEEDS OF THE
ECONOMY AND POPULATION

➤ **100 %**

ATTRACTING INVESTMENTS IN THE
ELECTRIC POWER INDUSTRY

➤ **Up to 7.5 KZT trillion**

MODERNIZATION OF EXISTING FACILITIES
AND CONSTRUCTION OF NEW FACILITIES

➤ **Up to 11,7
GW**

COMPLETION OF THE UNIFIED ENERGY
SYSTEM OF THE COUNTRY

➤ **100 %**

REDUCTION OF WEAR AND TEAR OF
GENERATING CAPACITIES

➤ **up to 43
%**

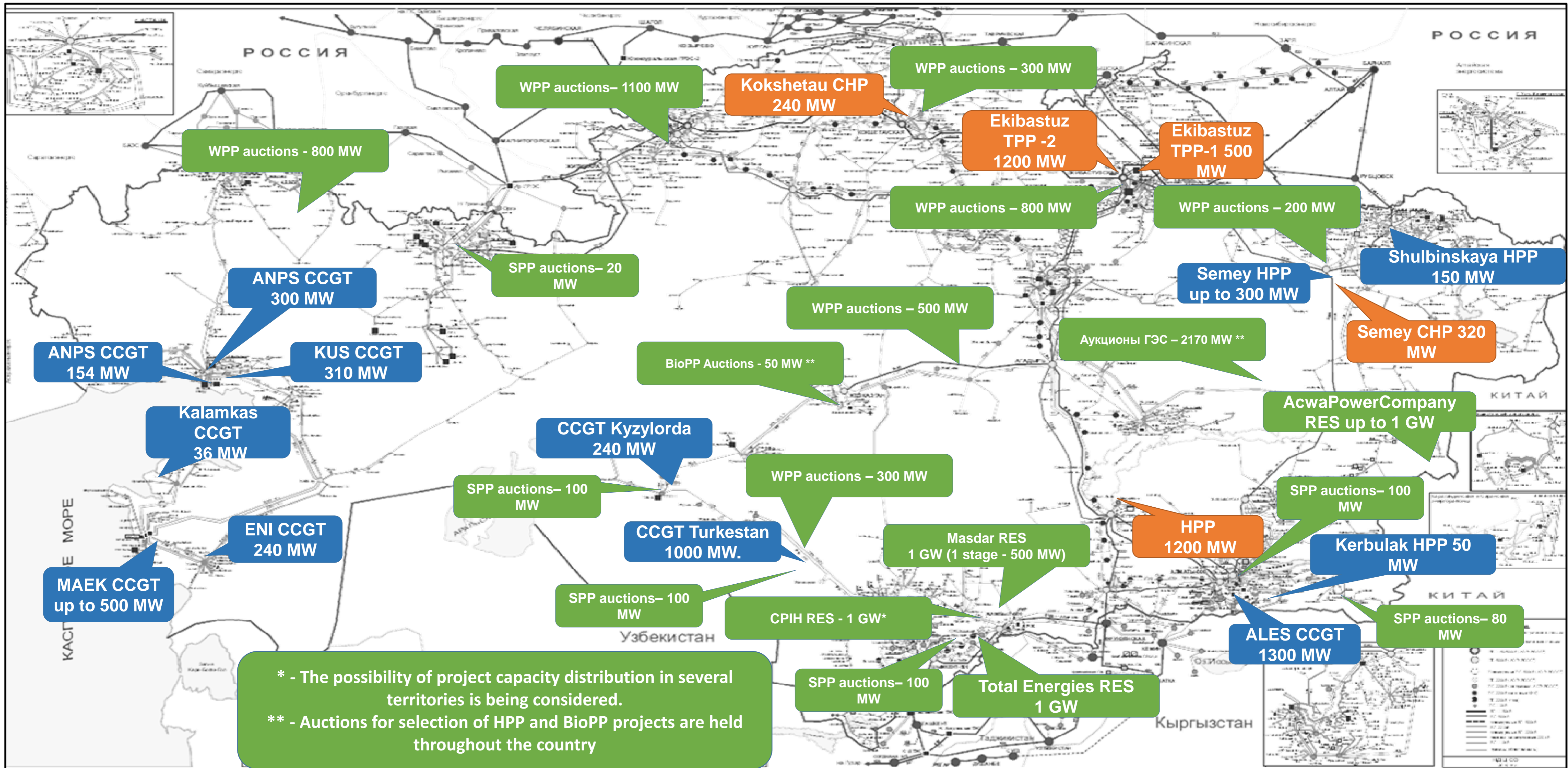
REDUCED DEPRECIATION OF POWER GRIDS

➤ **Up to 47
%**

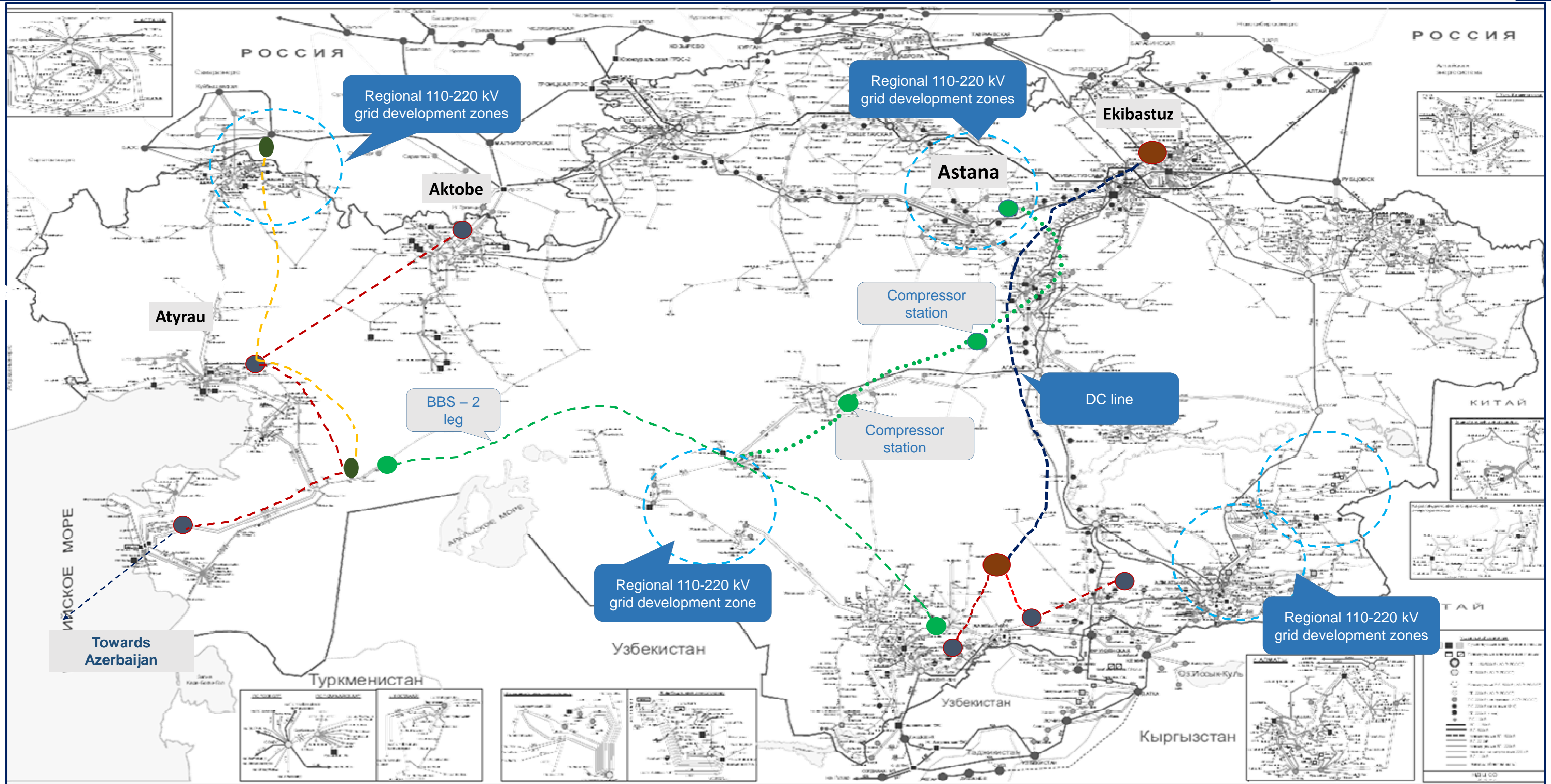
INCREASE IN THE VOLUME OF ELECTRICITY
GENERATION FROM RENEWABLE ENERGY
SOURCES COMPARED TO 2022

➤ **2.8 times**

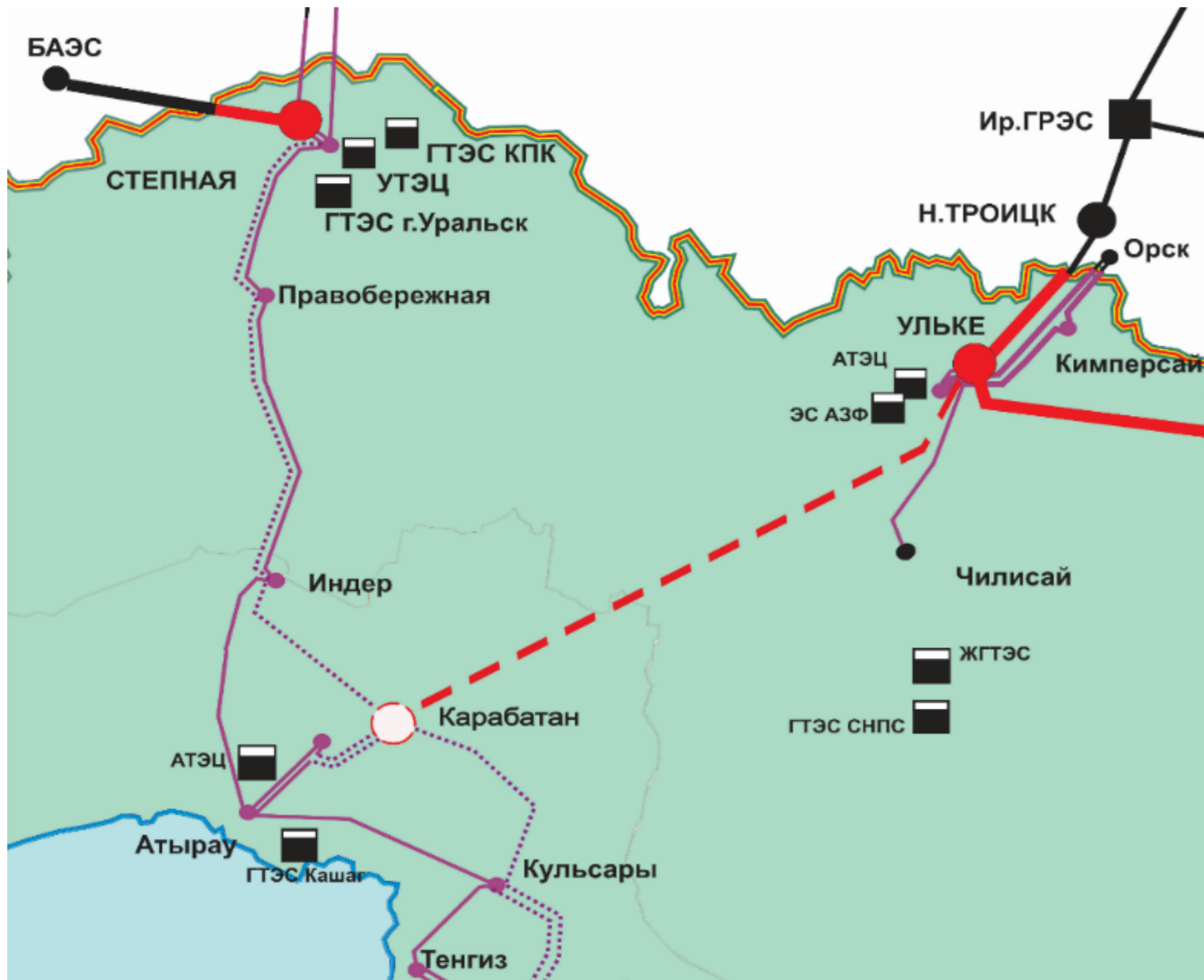
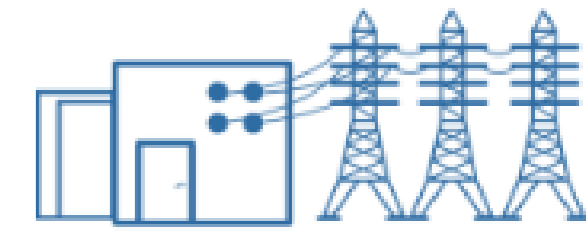
Generation commissioning plan until 2029



Generation commissioning plan until 2029



"Integration of the Western zone into UES of Kazakhstan"



- Project cost: estimated **164** billion KZT (pending feasibility study)
- Commissioning period until 2028
- Effect: Unification of the Western Zone with the main part of UES of Kazakhstan through the territory of Kazakhstan.
- Current status: Feasibility study of the project is being developed - completion date Q4 2023
- Development of the design and construction documentation - 2024-2025.

Construction and installation works - 2025-2027

Power grid construction

- Construction of 500 kV overhead line Karabatan substation - Ulke substation
- Construction of 500 kV switchgear at Karabatan substation with installation of 3*167 MVA autotransformer and shunt reactor, Controlled shunt reactors.
- Expansion of 500kV Ulke substation with installation of the second group of 167 MVA ATs with shunt reactor and controlled shunt reactors



2009

- Beginning of RES development in the country
- First legislative initiatives to support RES

- Concept for the transition of the Republic of Kazakhstan to a "green" economy (2013)
- Application of fixed tariffs for RES sources (2014)

2013-2015

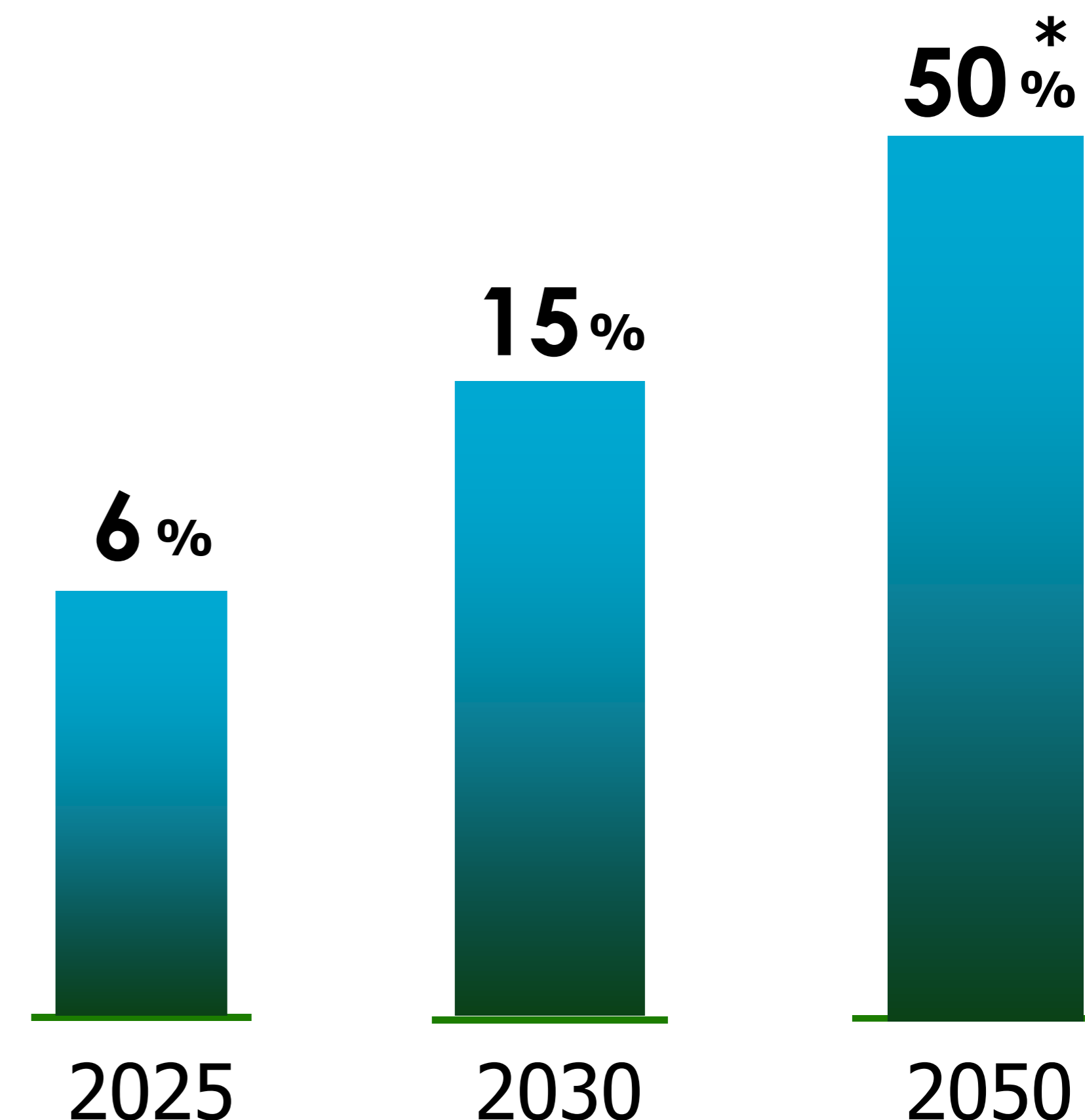
2018

- Introduction of an auctioning mechanism for competitive selection of RES projects
- Amendments were made to the current legislation in the RES sector support

- Forecast electricity balance of the Unified Electricity System of Kazakhstan until 2035
- Finalization of the law on RES support (exemption from property tax and land tax, also exemption from corporate income tax)

2020-2023

Share of RES in the total volume of generation

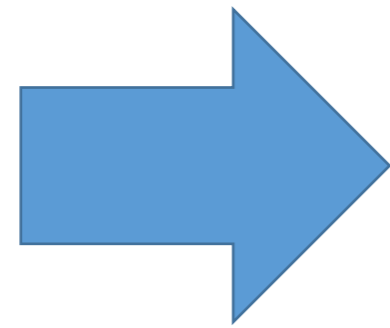


* including alternative energy sources



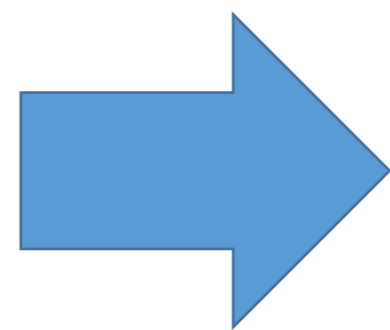
Auction results

Auctioned capacity



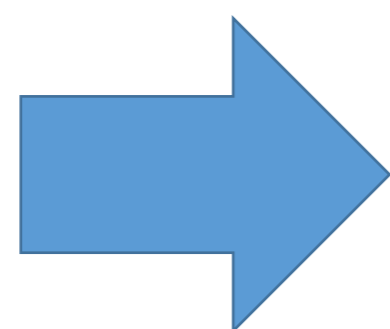
2395
MW

Participants



232 companies
from **13** countries

Signed a contract
with FSC



64
companies

Lower auction prices

WPP	2018	2019	2020	2021	2022
Starting price, KZT	22,68	22,66	21,69	21,53	21,53
Min. price, KZT	17,39	19,27	15,9	14,08	12,39
price reduction %	23,3 %	15,0%	26,7%	34,6%	42,45%

SPP	2018	2019	2020	2021	2022
Starting price, KZT	34,61	29	16,97	16,96	16,96
Min. price, KZT	18	12,49	14,58	12,87	16,95
price reduction %	48%	57%	14,1%	24%	0,05%

HPP	2018	2019	2020	2021	2022
Starting price, KZT	16,71	15,48	15,48	15,2	15,48
Min. price, KZT	12,8	15,43	13,48	15	15,48
price reduction %	23,4%	0,3%	12,9%	1,4%	-



- ✓ Guaranteed purchase of all electricity generated and supplied to the grid
- ✓ Distribution of RES power through the Financial Settlements Center (FSC) to conditional consumers
- ✓ Increase of PPA duration from 15 to 20 years
- ✓ Contract on connection to the grid of RES facilities
- ✓ Reserved land plots and grid connection points
- ✓ Provision of investment preferences under the Entrepreneurship Code
- ✓ Financial support to FSC in case of default risk
- ✓ Annual indexation of tariffs
- ✓ Establishment of a reserve fund at the FSC

INVESTOR'S GUIDE TO RENEWABLE ENERGY
PROJECTS IN KAZAKHSTAN



KOREM JSC's website: 
https://auction.korem.kz/rus/investor/ruk_investora/

Financial Settlement Center of
Renewable Energy LLP. 
<https://rfc.kegoc.kz/auctions/materials>



WPP



HPP



SPP



BioPP

Total:

	2023	2024	2025	2026	2027
WPP	500 MW	700 MW	800 MW	1000 MW	1000 MW
HPP	250 MW	560 MW	430 MW	480 MW	450 MW
SPP	100 MW	100 MW	100 MW	100 MW	100 MW
BioPP	10 MW	10 MW	10 MW	10 MW	10 MW
Total:	860	1370	1340	1590	1560

installed capacity by 2027: 6.7GW

Maximum auction prices, tenge/kWh.

22.68 kWh (\$0.047)

41.23 kWh (\$0.086)

34.61 kWh (\$0.072)

32.23 kWh (\$0.067)