

**Ministry of Energy
The Republic of Kazakhstan**

**Example of a Government Support Program
Based on Fixed RES Tariffs**

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PREREQUISITES FOR RES DEVELOPMENT and TARGET INDICATORS



Law No165-IV of the Republic of Kazakhstan dated July 4, 2009
On Supporting the Use of Renewable Energy Sources

1

Strategy Kazakhstan 2050 All developed countries increase investments into alternative and renewable energy technologies. **By 2050** these technologies will allow for generation of **up to 50%** of consumed energy.

2

The Concept on Transition of Kazakhstan to Green Economics

Content of alternative and renewable energy sources (solar batteries and wind turbines) in total will reach **3%, by 2030 - 10%**.

3

Strategic Development Plan of the Republic of Kazakhstan by 2020

Content of alternative and renewable energy sources (solar batteries and wind turbines) in total will **reach 3%**

4

Action Plan for Development of Alternative and Renewable Energy in Kazakhstan 2013-2020 (Resolution No43 of the Government dated January 25, 2013)

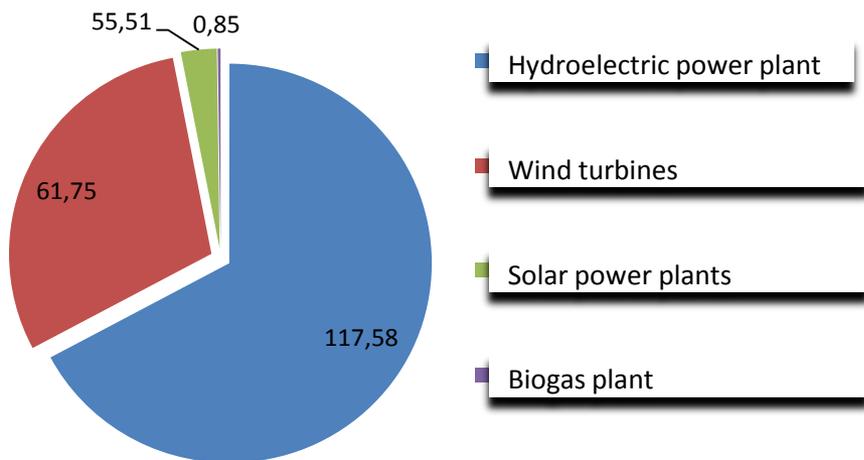


Development of Renewable Energy Sources

OBJECTIVE: Increase RES content in Kazakhstan energy balance

AIM: Increase RES generated power in 2016 up to 1 billion kWh

Designed RES Power as of 01.07.2015 is 235.69 MW



Amount of RES produced power as of 01.07.2015 is 245.7 million kWh, RES content is 0.7%

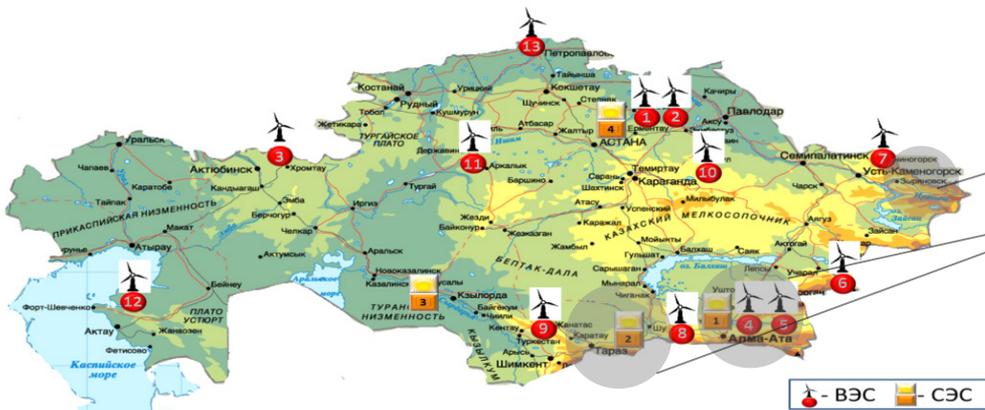


Renewable Energy Source Development

Projects implemented in Kazakhstan in 2013 -2015

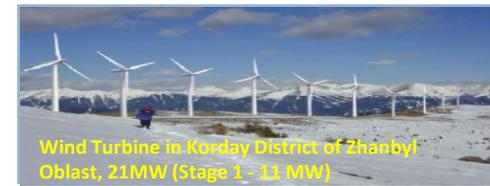
Wind Turbines		Solar Power Plants
1. Wind Turbine near Yereymentau in Akmola Oblast - 45 MW	8. Wind Turbine in Zhambyl Oblast 21 MW (Korday)	1. Solar Power Plant in Kapshagay of Almaty Oblast - 2 MW
2. Wind Turbine near Yereymentau in Yereymentau District of Akmola Oblast - 50 MW	9. Wind Turbine in Sarysy District of Zhambyl Oblast - 100 MW (Zhanatas)	2. Solar Power Plant in Burnoye of Zhambyl Oblast - 50 MW
3. Wind Turbine in Badamsha village in Kargaly District Aktubinsk Oblast - 48 MW	10. Wind Turbine in Gulshat village of Aktogay District of Karaganda Oblast – 50 MW	3. Solar Power Plant in Kyzylorda Oblast - 30.42 MW
4. Wind Turbine construction in Shelek corridor in Almaty Oblast - 51 MW	11. Wind Turbine near Arkalyk in Kostanay Oblast - 48 MW	4. Solar Power Plant in Astana – 1 MW
5. Wind Turbine in Shelek district of Almaty oblast - 60 MW	12. Wind Turbine in Fort-Shevchenko of Mangistau Oblast – 19.5 MW	
6. Wind Turbine in Dzungar Gates of Almaty oblast - 72 MW	13. Wind Turbine in Novonikolsk village of Kyzylzhar District in North Kazakhstan Oblast 1.5 MW	
7. Wind Turbine in Ulan District of East Kazakhstan Oblast- 24 MW		

RES Layout



Small Hydroelectric PowerPlants

By 2020, it is planned to commission small hydroelectric power plants in Almaty, South Kazakhstan, East Kazakhstan and Zhambyl Oblasts of designed power 200 MW



Wind Turbine in Korday District of Zhambyl Oblast, 21MW (Stage 1 - 11 MW)



Hydroelectric power plant on Issyk river in Almaty, 1 MW



Solar Power Plant in Kapshagay of Almaty Oblast 2 MW



Tas Otken Hydroelectric Power Plant in Zhambyl Oblast, 9.2 MW



Wind Turbine near yereymentau in Akmola Oblast 45MW



Hydroelectric Power Plant on Karatal river in Almaty Oblast, 5MW



Solar Power Plant in Burnoye of Zhambyl Oblast 50 MW

PRINCIPLE PROVISIONS OF RES SUPPORT LAW OF THE REPUBLIC OF KAZAKHSTAN

Investor Support Mechanism

- 1 Purchase of total amount of RES produced power is guaranteed per fixed tariff during 15 years
- 2 Fixed tariffs are subject to annual indexation per inflation rate
- 3 Buyer is the Accounting Financial Center
- 4 RES producers are subject to exemption of power transmission fees

LIST OF LEGAL REGULATIONS ADOPTED TO IMPLEMENT RES SUPPORT LAW

Resolutions of the Government of the Republic of Kazakhstan:

- dated 27.03.2014, No271 On Approval of Fixed Tariff Determination Rules;
- dated 12.06.2014, No645 On Approval of Fixed tariffs;
- dated 30.04.2014, No419 On Tariff Approval Not Exceeding Sale Price Set in RES Project Feasibility Study Approved by Authorized or Local Executive Agency and Its Period of Validity per RES Power Production Feasibility Study

Orders of the Minister of Energy of the Republic of Kazakhstan:

- dated March 31, 2015 No256 On Determination of RES Accounting Financial Center;
- dated February 20, 2015 No118 On Approval of Tariff Determination for RES Support;
- dated March 2, 2015 No164 On Approval of Centralized Purchase and Sale of RES Produced Electric Power by Accounting Financial Center;
- dated March 2, 2015 No163 On Approval of Carontract Templates for RES Produced Electric Power Purchase by Accounting Financial Center Purchase Per Fixed Tariffs Not Exceeding Sale Price Set RES Construction Project Feasibility Study and Approved by Authorized or Local Executive Agency, and for RES Produced Electric Power Sale to Consumers

The Order of the Minister for Environmental Protection and Water Resources of the Republic of Kazakhstan dated May 16, 2014 No188-ө On Determination of Country List for Benchmarking Study of RES Produced Electric Power Tariffs

#	Wind Turbines	Photovoltaic Solar Energy Converter	Small Hydroelectric Power Plants	Biogas Plants
1	Denmark	Denmark	Denmark	Denmark
2	Germany	Germany	Germany	Germany
3	Italy	Italy	Italy	Italy
4	Netherland	Spain	Netherland	Netherland
5	Spain	Turkey	Spain	Spain
6	Bulgaria	Украина	Bulgaria	Bulgaria
7	Turkey	India	Turkey	Turkey
8	Ukraine	South African Republic	Ukraine	Ukraine
9	China	UK	India	India
10	India	USA(Hawaii, California, New York, Oregon, Vermont)	South African Republic	South African Republic
11	South African Republic	Belgium	UK	UK
12	UK	China	USA (Hawaii, New York)	USA (New York)
13	CUA (Hawaii, New York, Vermont)	Bulgaria	Belgium	Belgium
14	Belgium	Brazil	Brazil	Brazil
15	Brazil			
16	Finland			

For selection of fixed tariff calculation method on 4 RES types: wind, solar, hydro and biogas energy, the most reasonable in our opinion is benchmarking method for the countries developing RES industry. Provided that Kazakhstan will have to compete with other countries for investment attraction in RES Sector. EBRD helped us with the benchmarking analysis as a part of technical assistance

Fixed Tariff Proposal Based on Benchmarking Analysis, Independent Expert Assessments and Existing RES Projects in Kazakhstan

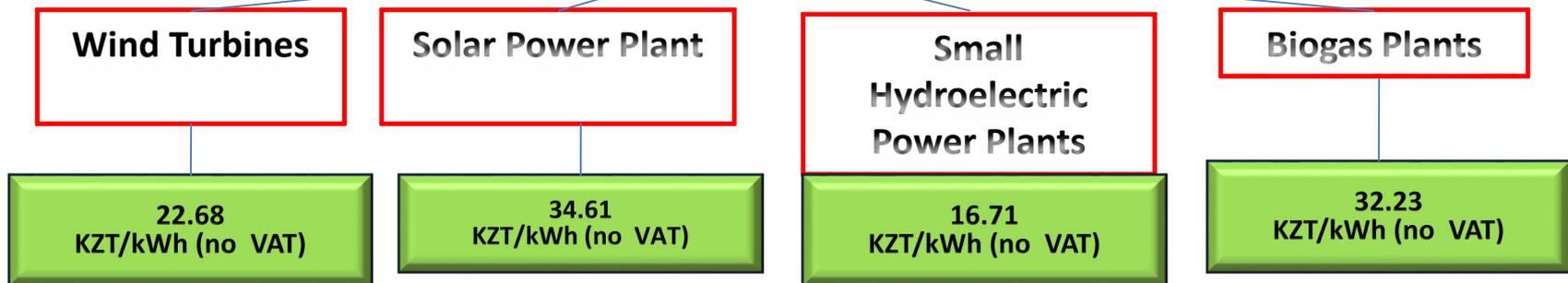
Тенге/кВтч

RES Type	Average benchmarking based tariff calculated for 15 yrs	Mercados Tariff	Existing RES Projects calculated for 15 yrs (max/min)	Fixed tariffs proposed by MEWR, 2014
Wind Turbines	19.79	18.36	25 (Samryk Energy)/ 16.6 (Vista Int)	19 (22.68*)
Solar Power Plant	34.09	30.4	64.98 (Samryk Energy)/ 24 (KazEcoWatt LLC)	29 (34.1*)
Biogas	27.87	27.0		27 (32.23*)
Hydroelectric Power	17.97	14.05	15.2 (TT Group)/ 9.8 (A&T Energy LLC)	14 (16.71*)

* Tariff after devaluation

FIXED TARIFFS FOR RES PROJECTS

Fixed Tariffs for RES Produced Electric Power Supply Approved by RoK Government Resolution No645 dated 12.06.2014



Per Item 2 Article 8-1 of the Law On RES Support, fixed tariffs are subject to annual indexation per inflation rate. Formula:

$$T_{t+1} = T_t * ИПЦ$$

T_{t+1} – indexed FT

T_t – effective FT approved by RoK Government with earlier indexation included, if any

ИПЦ (ICP) – index of consumer price for twelve months before October 01 of the year of indexation derived from official statistical data

Tariff indexation does not cover investor currency risks that affects decision on project funding

How Electric Power is Sold by RES Generators?

1 RES Generators use the fixed tariffs set by the Accounting Financial Center per calculations specified in Sale-Purchase Rules

2 Accounting Financial Center distributes RES support expenses among conventional stations and importers, and makes supply contracts

3 Tariffs for RES support – expenses for RES power purchase, expenses for balancing and operational expenses of the Accounting Financial Center (derived per RES Support Tariff Rules)

Draft Law On Amending Certain Legislative Acts of the Republic of Kazakhstan for Transition to Green Economy



NEW BYLAWS TO BE DEVELOPED

1. RoK Government Resolution **On Amending RoK Government Resolution on Approval of Fixed Tariff Determination Rules**
2. RoK Government Resolution **On Amending RoK Government Resolution on Approval of Fixed Tariffs**
3. RoK Government Resolution **On Approval of Target Indicators for RES Sector Development by 2030**
4. Order of the RoK Minister of Energy **Приказ On Approval of Reserve Fund Foundation Rules**

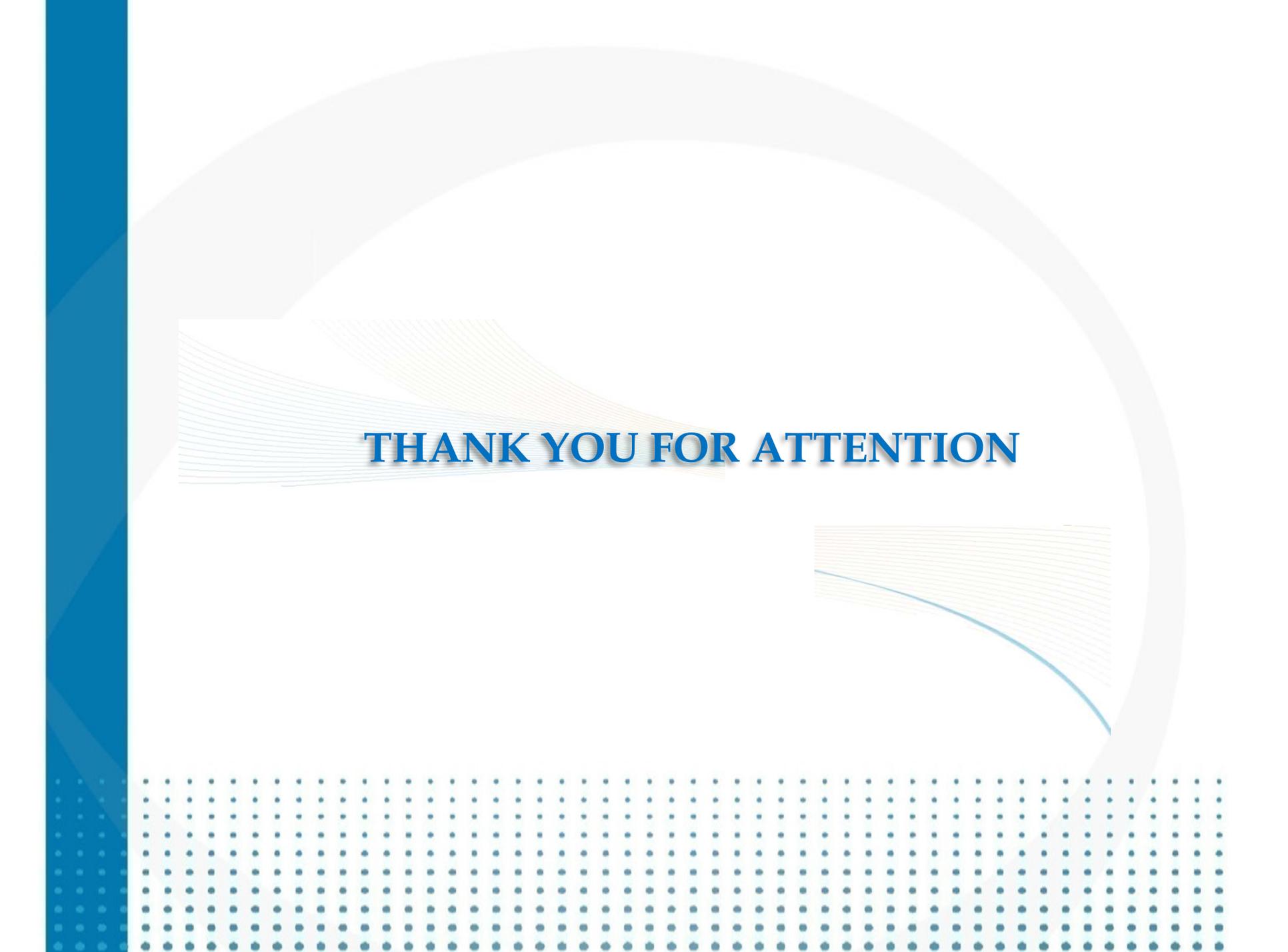
**FIXED
TARIFF**

Draft Law On Amending Certain Legislative Acts of the Republic of Kazakhstan for Transition to Green Economy



Key Proposals

- Approval of target indicators for RES Sector development, including by types of RES
- Foundation of Reserve Fund under the Accounting Financial Center to ensure financial obligations of the Accounting Financial Center towards RES Companies
- Additional powers of the authorized agency for planned development of RES sector and project selection included into Layout Plan
- Improvement of mechanism to connect to Unified RoK Electric Power Network System



THANK YOU FOR ATTENTION