



Republic of Kazakhstan



Meeting of Energy Sector Coordination Committee

18 July 2016
Islamabad, Pakistan



Energy sector of Kazakhstan



Energy-efficiency and renewable resources are a prerequisite for Kazakhstan's sustainable development in the XXI century.

The concept of Kazakhstan's transition to the sustainable development in 2007-2024 the President of Kazakhstan approved in his Decree No 216 as of 14 November 2006, reads that Kazakhstan needs to take steps towards alternative energy sources by introducing state-of-the-art technology facilitating renewables; promoting sound use of hydropower resources; solar and wind energy facilities and other renewables and alternative sources of energy.

Kazakhstan experiences lack of investment to the power industry. In the next 15 years around \$ US 15 bln, and \$ US 24 bln in 2030 perspective will be needed, roughly estimated.

Kazakhstan is expected to face an increase in energy demand by more than 50% in the upcoming 10-12 years (by 2018).



Clean Energy Policy, Kazakhstan 2050 Strategy

- ▶ During his annual Address to the Nation on 15 December 2012 in Astana, the President of Kazakhstan N. Nazarbayev launched a new **Kazakhstan 2050 Strategy**.
- ▶ **Kazakhstan 2050 Strategy** sets a task that 50% of energy consumed in Kazakhstan would be generated from renewable and alternative sources, so that to take its niche throughout the electric power generation system.



HOW TO IMPLEMENT RENEWABLES PROJECT



Idea for
Renewables
Development
Project



Legalization of
right for land
property



Obtaining water
use permit (in case
of HPP)



Connection to the
grid (based on pre-
Feasibility Study)



Drafting and
approval of
Feasibility Study
(including pre-EIA)

Pre-investment stage



Drafting and approval
of Design and
Estimate Documents
(including EIA)



Inclusion in the list of
RE generating
companies (following
FS or DED)



Entering into the
offtake agreement



Construction of the
facility, connection
to the grid



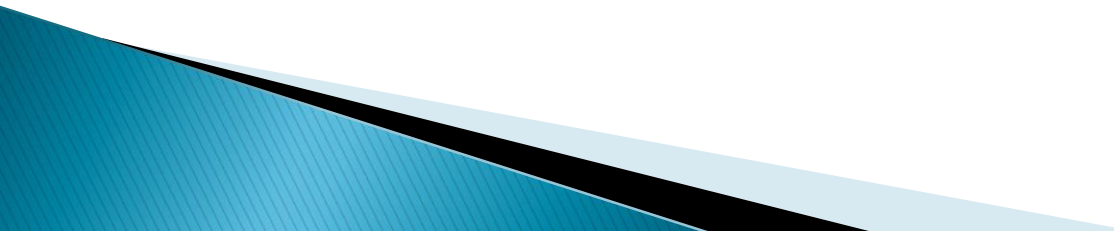
Commissioning

Investment stage



Operation

Main principles of Strategy of Energy-efficiency and Use of Renewables in Kazakhstan with the view of sustainable development until 2024 aim to:

- ▶ Ensure government and regulatory support and incentives for a wide and efficient energy-saving, and renewables;
 - ▶ Develop manifold forms and technology in using renewables;
 - ▶ Create conditions for diversification of the national energy system;
 - ▶ Stepwise inclusion of full costs in energy tariffs, related to environment pollution and inefficient use of resources;
 - ▶ Expand international cooperation in the area of energy-saving, energy-efficiency and use of renewables.
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Stages of transition to energy-efficiency and renewables in Kazakhstan

After preparatory and first stages (2008-2012), during which the regulatory framework on efficient use of renewables was drafted and improved, Kazakhstan is now having the second stage (2013-2018) to launch pilot projects in every region, develop integrated energy systems; reduce share of heat-and-power engineering; further research and develop energy and resource saving technology.

The third stage (2019-2024) aims to build industries based on renewables, countrywide replication of best practices, including that of Central Asian countries, shift to breakthrough energy technology.

Expected outcomes

Increased share of alternative sources of energy used in Kazakhstan from 0,05 % by 2012, 1 % by 2018, 5 % by 2024 ;

Launching by 2024 pilot projects based on breakthrough energy technology.

Expansion of more efficient agrarian technology across at least 35% of rural land by 2024;

Replacement with alternative energy sources by 2012 - 0,165 mln TFOE, by 2018 - 0,325 mln TFOE, by 2024 - 0,688 mln TFOE and by 2030 - 1,139 TFOE;

Improved resource efficiency by 37 % in 2012, 43 % in 2018, 53 % in 2024;

Increased share of renewables used (excluding large HPPs) in power generation up to 3000 MWt and 10 bln KWt-h of electric power per year by 2024;

Outlooks for energy-saving and use of renewables

- ▶ Improving energy-efficiency and every possible use of renewables should be mainstreamed in the energy policy to achieve sustainable development goals in accordance with the concept of Kazakhstan's transition to the sustainable development in 2007-2024.
- ▶ Growth in consumption of electric and thermal energy both in Kazakhstan and neighboring countries will result in the need to phase in new capacity and increase energy prices.
- ▶ Investment to local renewables is a cost-effective alternative to the centralized energy supply, especially for remote areas suffering from electricity shortage.



Information on investment projects by the Ministry of Energy of Kazakhstan (KZ MOE)

US dollars

№	Name of Investment Project	Responsible agency	Value in 2015	Value in 2016
In progress				
1	Creation of Nuclear Medicine and Biophysics Center	KZ MOE	1 553 947	2 543 118
2	Purification and rehabilitation of water ponds (Schuchye, Borovoye, Karassu lakes) in Schuchinsk-Borovoye resort area	KZ MOE	2 557 729	3 235 294
3	Development of hydrometeorological monitoring system for Schuchinsk-Borovoye resort area	KZ MOE	524 088	
4	Creation of Nuclear Technology Park in Kurchatov	KZ MOE	369 515	
5	Construction of stand in Kazakhstan Testing Tokamak KTM	KZ MOE		3 714 635
New				
1	Creation of special economic zone «National Industrial Petrochemical Technopark» in Atyrau region	KZ MOE	6 398 623	
2	«Reconstruction of 10 kW Electrical line in Uralsk», «Reconstruction and reinforcement of 100 kW HV line No 161 Uralskaya – B. Chagan WKO», «Reconstruction and reinforcement of 110 kW HV line No 162 Uralskaya-Kushum WKO», «Reconstruction and reinforcement of 110 kW HV line No 163 Kushum-Budarino WKO» and «Reconstruction and reinforcement of 110 kW HV line No 172 Pravoberezhnaya-Budarino WKO» JSC «West-Kazakhstan Regional Energy Company»	KZ MOE	1 997 909	