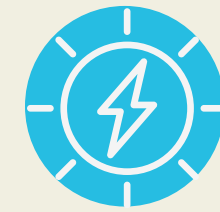




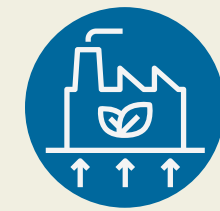
# Legal Regulation of the Geothermal Energy in Kazakhstan



# Geothermal Energy Potential in Kazakhstan



Kazakhstan has a huge potential for solar, wind, hydro energy, including geothermal energy. The country is already employing wind and solar energy.



Kazakhstan has significant low temperature geothermal resources.

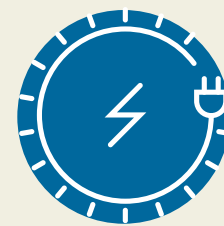


In Kazakhstan geothermal sources can be used for heating of residential premises and greenhouses, fish farming, balneology (SPA centers), etc.

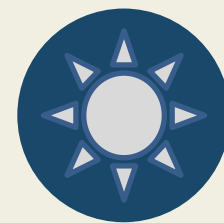
# Geothermal Energy Potential in Kazakhstan



Highest concentration geothermal resources are concentrated in Ustyurt-Buzashinsky and Mangyshlak basins in southwestern Kazakhstan and in the West Ily (Almaty) and East Ily (Zharkent) basins in southeastern Kazakhstan.



At this stage, geothermal energy is still unfamiliar for Kazakhstan. Geothermal energy can be used for producing electricity as well as thermal energy.



In Kazakhstan geothermal sources can be used for heating of residential premises and greenhouses, fish farming, balneology (SPA centers), etc.

However, the existing legal framework is not efficient for geothermal energy, because the legal acts do not cover all aspects related to geothermal energy.

# Incentives for Renewable Energy Projects

## WIND, SOLAR, HYDRO AND BIOENERGY

- FSC – single buyer of RE
- 20-year PPAs at auction prices
- Annual indexation of auction prices
- Priority dispatch for RE generators
- Investment preferences

## GEOHERMAL ENERGY

- No fixed tariffs
- Auctions are not applicable
- 20-year PPAs cannot be concluded with FSC



# INCENTIVES FOR RENEWABLE ENERGY PROJECTS

Geothermal energy producing organizations may not be able to benefit from the existing state support for renewable energy projects.



According to the Rules for Determining Fixed Tariffs (dated March 27, 2014 No. 271), fixed tariffs are approved for certain types of RE, and fixed tariffs for electricity produced from geothermal resources are not included in this list. Therefore, this also applies to the determination of the maximum auction prices.

# Institutional Framework for the Geothermal Energy

In Kazakhstan, there are separate bodies which regulate relations in the electricity and heat supply sectors.

The Ministry of Energy is the central executive body which carries out formation and implementation of state policy, coordination of management process in the field of heat supply development of RES and is also responsible for energy efficiency issues.

FSC is the centralized buyer and seller of electricity produced from RE.

The MIID manages heating within the settlements but does not govern CHPP's and boiler houses providing thermal energy to the centralized heating zone.

Akimats (local executive bodies) govern many important decisions in relation to the utility and the fixed assets on their balance sheet.



# Tariffs for the Energy Produced from Geothermal Resources

## ELECTRICITY

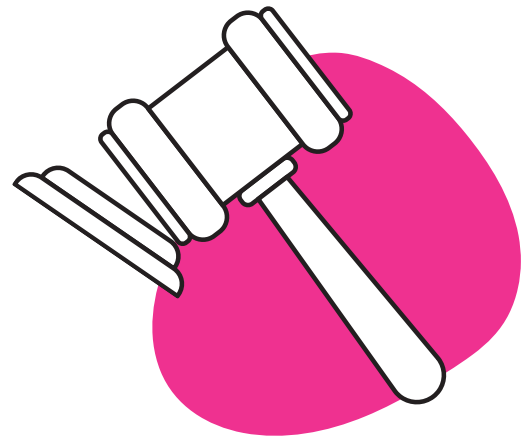
FSC cannot be used therefore

- No fixed tariffs
- No auction prices

## THERMAL ENERGY

Thermal energy from RE is purchased by the Energy Supplying Organization in accordance with the tariffs established by the legislation on natural monopolies.





- The legislation of Kazakhstan does not determine the list of necessary licensing processes for the production, transmission and distribution of electricity and heat from renewable energy sources.



- In terms of permitting processes, the current legislation does not directly determine the process of extraction and use of geothermal resources.



- There is only a “special water use” permit that might be used for geothermal resources.

# Permits and Licenses



# Permits and Licenses

- Neither the Subsoil Code nor the Water Code covers the permitting and licensing issues sufficiently to understand the process and requirements.
- EIA is an essential mechanism to access the possible consequences of economic and other types of activity on the environment and public health. Neither the Environmental Code nor any other legislative act defines clear norms / standards for EIA for geothermal projects. In this regard, in practice, developers may have problems obtaining an EIA.

