



Republic of Kazakhstan

Joint-Stock Company Kazakh Research-and-Development and
Planning-and-Surveying Institute of Fuel-and-Energy Systems "Energy"

Company Profile

Year of education : 1962

Personnel: 100 employees

The types of services provided:

- development of schemes of development of electric networks of Kazakhstan UPS;
- complex design of grid facilities with the voltage of 6-1150кВ (substation, cable and overhead transmission lines);
- the output power of the power plants (TPP, TPP,VES, SES, GES);
- design of sections, AMR, SCADA, fiber optics, relay protection and automatic equipment;
- design of solar and wind power plants;
- Marketing researches of the market of electricity



Production facilities:

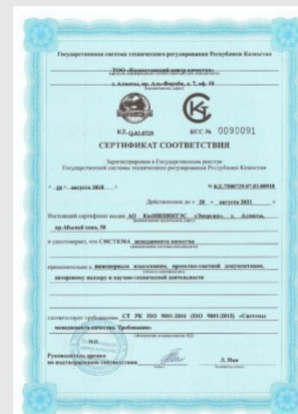
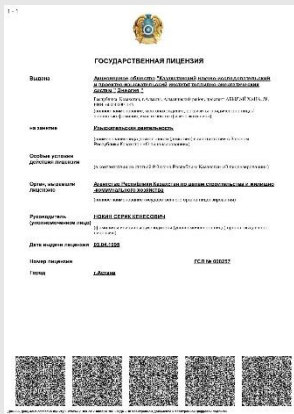
- special-purpose drilling machinery for survey activities;
- soil and chemical analysis laboratory;
- up-to-date licensed software;
- own archive projects since 1962

In 2017 established the research Department

In 2017 opened branch of the Institute in Astana

ЛИЦЕНЗИИ И СЕРТИФИКАТЫ

- State licenses for engineering, Category I (Agency of the RK for Construction, Housing and Utilities)
- State license for survey activities (Agency of the RK for Construction, Housing and Utilities)
- Certificate of compliance for Quality Management System, MS ISO 9001-2000 “Quality Management System. Requirements”
- Certificate of compliance for Occupational Safety and Health “Management System OHSAS 18001-2007”
- Certificate of compliance for Quality Management System, Environment Standard ST RK ISO 14001-2006 “Environmental Management Systems. Requirements and Guidelines”
- The certificate of accreditation as a subject of scientific and (or) scientific and technical activities





1

Electrical substations

4

Systems of dispatching and technological management

2

Power lines (air, cable)

5

Renewable energy sources



3

Relay protection and automation

6

Architectural construction

7

Prospects of development of energy systems

Integrated design power system of Kazakhstan

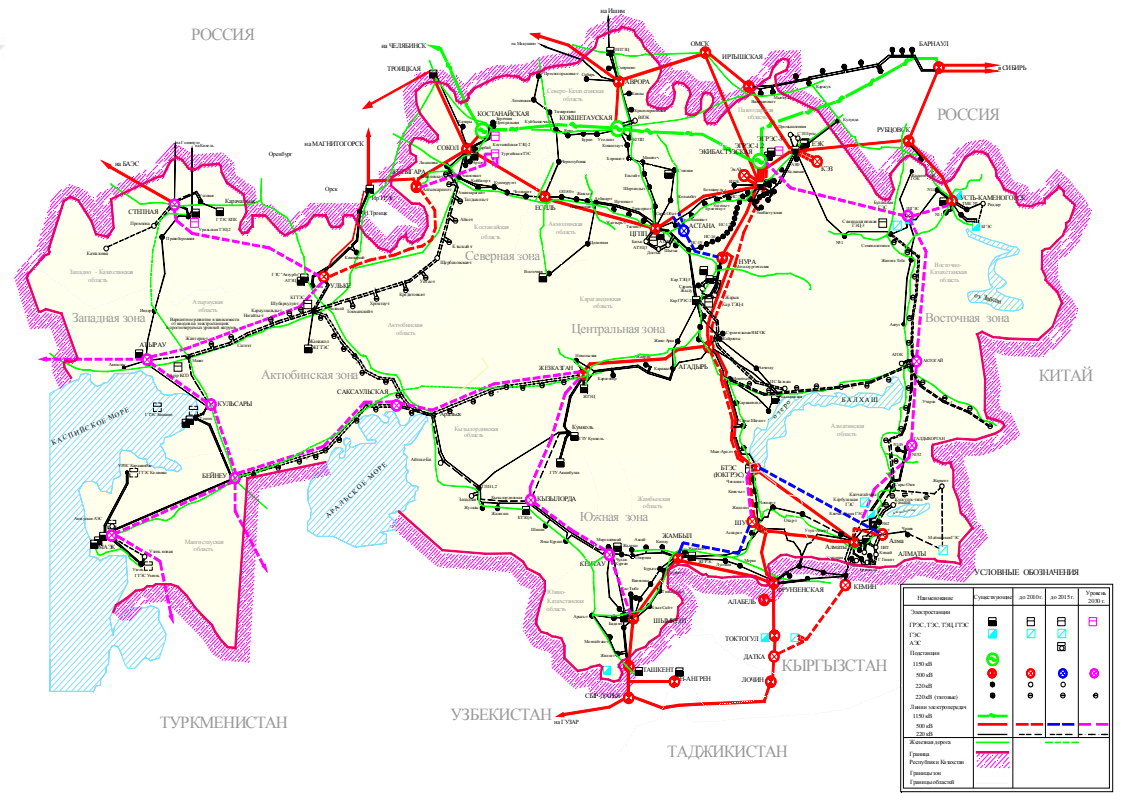
For more than fifty years history the Institute has built:

> 1000

Substations voltage
110 ÷ 1150 kV
transformer power
more than 50 GW;

~ 1000000 **КМ**

lines power voltage
110 ÷ 1150 kV

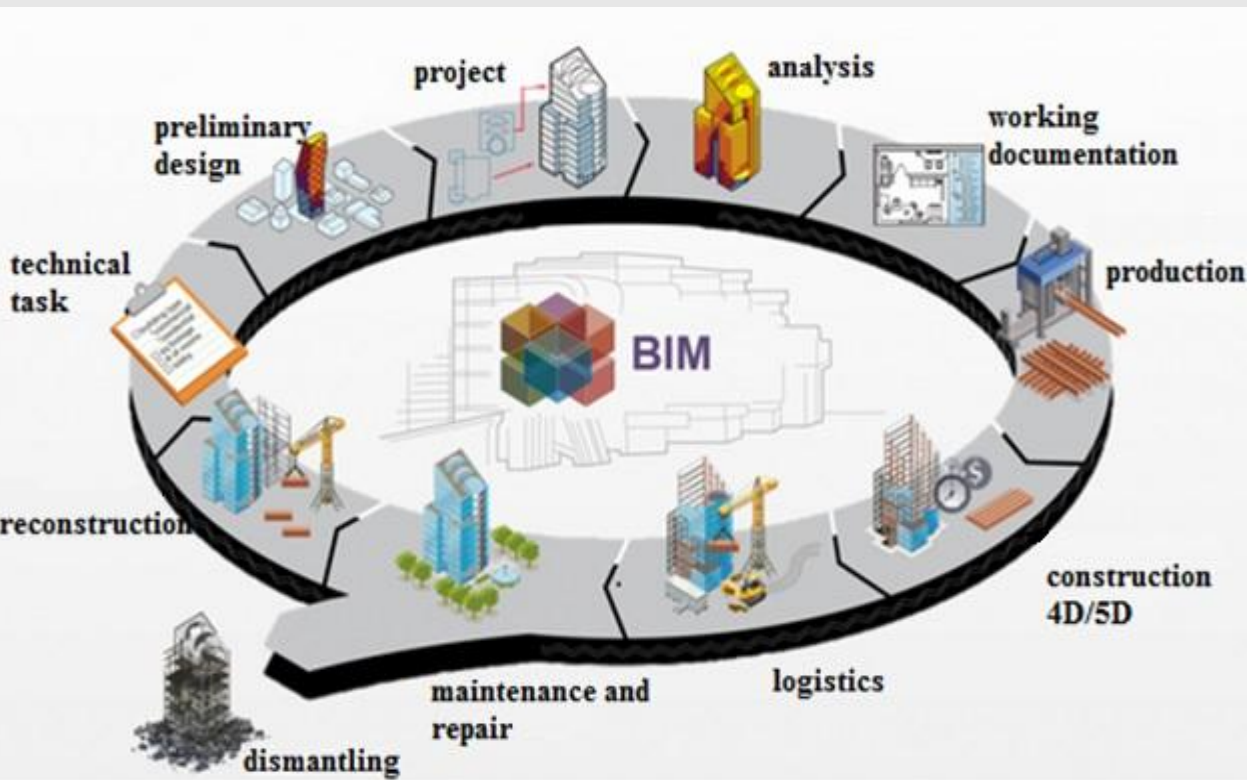


A schematic map of the existing electrical networks of 220 kV and above UES of Kazakhstan with the perspective till 2030.

ACTIVITIES

- Work on the development of electric power industry of Kazakhstan;
- Design of electric grid facilities;
- Design of engineering systems and networks;
- Structural design;
- Design of relay protection and automation linear;
- Design of emergency automation;
- Design of dispatch-technological management (AMR, SCADA, ESCC, RACE, temperature control, fiber optics, digital microwave transmission, RF communication, satellite communication);
- Consulting services;
- Surveying - engineering-geodetic, engineering-geological, hydrological;
- Production base





The Institute successfully introduced a system of building information modeling (BIM) on the basis of a family of software products Autodesk Revit.

1. The final product design is not just a set of drawings, is an information model that is integrated with the implemented IT.
2. The enhanced transparency of the design process, the ability to control the progress of the work.
3. Improving the quality of the design documentation, reduction of additional costs in the implementation of the project.



- § Construction of a plant for the production of 110-220 kV transformers in Shymkent "Asia Trafo"
- § Production scheme of the development of electric networks of South Kazakhstan region until 2030
- § The master plan of development of electric power industry of Kazakhstan till 2030;
- § Electric supply to the city of Astana to 2010 with perspective to 2020; Plan of development of electric networks of Almaty and Almaty region, Atyrau, Aktau, Kostanay, Pavlodar, Atyrau and Akmola region;
- § Optimization of the development of the energy complex LLP "Corporation Kazakhmys", Kazakhstan companies LLP "ENRC Kazakhstan";
- § External power supply of the plant for the production of HBI JSC "SSGPO";
- § Interregional schemes of territorial development of Almaty region";
- § External power supply the electrolysis plant for the production of primary aluminum in Pavlodar region;
- § The construction of the second transmission line 500 kV of transit North – South of Kazakhstan;
- § Detailed design for the construction of the rings of 220 kV Almaty and Astana;
- § Feasibility study for the project "Strengthening of communication of the Pavlodar power unit system of Kazakhstan";
- § "A technical study of the interconnection flow from the Orenburg region (Russia) to Aktobe region (Kazakhstan)".

RENEWABLE SOURCES OF ENERGY

The Institute has completed the design of over 29 objects (the Scheme of power distribution, FS, RP). In the list of objects included: wind farms, solar stations, and stations using biogas.

№	Object	Number	Power (MW)
1	The power plant on biomass	1	5
2	Small HPPs	2	40
3	Wind power station	10	958
4	Solar power plant	17	750
	Total:	30	
	Total power		1 753



7 REASONS TO CHOOSE THE JSC "ENERGY"

- 1 Experience in designing for more than 55 years
- 2 I license category for design and survey activities
- 3 Own archive projects since 1962
- 4 More than 100 highly qualified specialists
- 5 Specialized equipment for survey works
- 6 Accredited chemical and soil laboratory
- 7 Modern licensed software for design (Windro, DigSielent Power Factory Software, Model Studio CS power lines, etc)

THE PROJECTS OF THE INSTITUTE

The construction of the largest industrial facility in Kazakhstan and the CIS "plant for the production of power transformers with voltage class of 110 and 220 kV in the city of Shymkent

The refinery project developed by the Institute in 2017.
Commissioning in 2018.



COMPLETED PROJECTS

SS 110/10 KV "NEW"



SUBSTATION 220/110/10 KV "DOSTYK"



COMPLETED PROJECTS



SUBSTATION 220/110/10 KV
"BESAGASH"



SUBSTATION 220/110/10 KV "ERMENSAY"



SUBSTATION 110/10 KV
"MEDEU"

Our Customers

§ Public Institution Energy and Public Utilities Management Board of Almaty;

§ Public Institution Energy and Public Utilities Management Board of Astana;

§ Public Institution Energy , Housing and Utilities of Mangistau region;

§ KEGOC JSC;

§ Samruk-Energy JSC;

§ RENC of Kazakhstan regions;

§ Chevron Munaigas Inc LLP;

§ ENRC Kazakhstan LLP

§ Kazakhmys Corporation LLP;

§ Turgay Petroleum JSC;

§ Tengizchevroil LLP;

§ PetroKazakhstan JSC;

§ Agip;

§ Atyrau Oil Refinery Plant JSC;

§ Pavlodar Oil Refinery Plant JSC and others;





INNOVATIVE SOLUTIONS TO EVERY PROJECT

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