



Ministry of Energy of Turkmenistan



**Improving the legislative
framework for the
development of end-use
energy efficiency in
Turkmenistan**

Mary, 2023



ELECTRIC POWER INDUSTRY IN TURKMENISTAN

ELECTRICITY PRODUCTION

Thanks to consistent improvement of living conditions, construction of energy-intensive industrial facilities, increase in electricity production, improving the quality of energy supply to domestic consumers, and exporting electricity to other countries are priority areas of the Turkmenistan's energy policy.



ELECTRIC POWER INDUSTRY IN TURKMENISTAN ELECTRICITY PRODUCTION

The country has adopted the “State Energy Saving Program for 2018-2024”, “Program for the Development of Energy Diplomacy of Turkmenistan for 2021-2025”, “National Strategy for the Development of Renewable Energy in Turkmenistan until 2030”, Law of Turkmenistan “On Renewable Energy Sources”. These documents lay the legal, economic, organizational and social foundations, objectives and principles of activities carried out in the energy sector.



ELECTRIC POWER INDUSTRY IN TURKMENISTAN

ELECTRICITY PRODUCTION

The country has 12 power plants with a capacity of 6943.2 megawatts, with 51 turbine units installed. Of these, there are 39 gas turbines, and 12 are steam turbines.

Turkmenistan fully meets its electricity needs and also exports its surplus to neighboring countries.

In order to meet the demand for electricity in a timely manner, the capacity of the country's energy system is growing fast.

MAIN TASKS OF THE ELECTRIC POWER INDUSTRY

- CONSISTENT AND UNINTERRUPTED ELECTRICITY SUPPLY TO CONSUMERS.
- INTRODUCTION OF NEW TECHNOLOGIES INTO PRODUCTION.
- TAKING ENVIRONMENTAL MEASURES TO REDUCE HARMFUL PRODUCTION IMPACTS ON PEOPLE AND THE ENVIRONMENT.
- EXPORTING ELECTRICITY AND TAKING MEASURES TO INCREASE ELECTRICITY EXPORTS.
- IMPLEMENTING ECONOMICALLY FEASIBLE PROJECTS FOR THE USE OF RENEWABLE ENERGY SOURCES.

ELECTRIC POWER INDUSTRY NEW PROJECTS

In recent years, the industry's infrastructure has been supplemented with gas turbine power plants, including the country's first combined cycle power plant.

By order of the Turkmenenergo Corporation, the Center for power equipment repair and maintenance was put into operation. Work is being carried out to repair General Electric gas turbines on the power plants, electric generators, transformer substations of various capacities, electrical panels, etc.

ELECTRIC POWER INDUSTRY NEW PROJECTS

High-voltage power transmission lines are being constructed. Within the framework of this project, overhead power lines of 500 kV and 220 kV will be installed. In addition, two substations of 500 kV and 2 substations of 220 kV will be commissioned.

The project provides for the installation of power transformers, switches, disconnectors, relay protection and automation devices manufactured according to European standards. Ring power system facilities will be equipped with modern computer programs that will provide remote control and continuous monitoring of specified operating parameters.

ELECTRIC POWER INDUSTRY NEW PROJECTS

The 220 kV overhead power transmission lines “Akhal-Balkan” and “Mary-Ahal” have been put into operation. This has made an important contribution into creating a ring power transmission system.

The implementation of these projects makes it possible to ensure mutual insurance of all parts of the energy system. This will also strengthen the country’s energy security and independence, ensure the efficiency of electricity production and consumption, export to foreign countries and economic growth of the entire region.

ELECTRIC POWER INDUSTRY NEW PROJECTS

The development of the electric power industry is also associated with the export of electricity to foreign markets. Electricity production is being increased and transmission systems are being improved in order to diversify Turkmen energy export to foreign energy markets. Currently, Turkmenistan exports electric energy to neighboring countries in the region.



ELECTRIC POWER INDUSTRY NEW PROJECTS

Of particular importance is the project for the construction of the Turkmenistan-Afghanistan-Pakistan (TAP) power transmission line, which will be laid parallel to the TAPI gas pipeline.

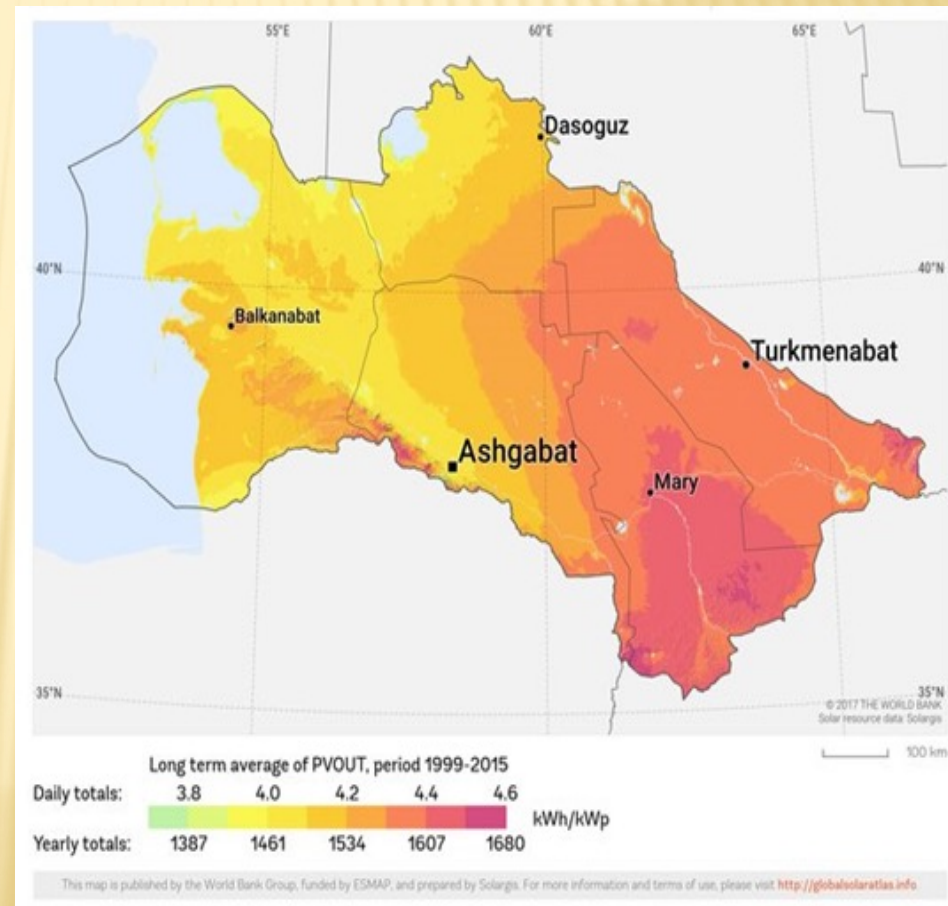
There is an enormous potential of Turkmenistan's energy sector and the growing interest from the world business community and investors in participating in joint projects.

Particular attention is paid to the implementation of large investment projects for the construction of domestic and international power lines, advanced technologies, as well as the development of alternative energy and the creation of innovative “smart” energy grids.

ELECTRIC POWER INDUSTRY NEW PROJECTS

With its significant solar and wind potential, Turkmenistan can create a balanced energy system with a reasonable share of renewable sources.

Solar radiation levels in Turkmenistan



ELECTRIC POWER INDUSTRY NEW PROJECTS

As part of the implementation of the Concept on the development of the “Altyn Asyr” Turkmen Lake region, in 2019-2025, design work is being carried out on the construction of a solar and wind power plant with a capacity of 10 MW.

In the near future, it is planned to convert the power plants currently in operation to a combined cycle. This will allow for annual savings of natural gas and will reduce the amount of harmful emissions into the environment.

ELECTRIC POWER INDUSTRY NEW PROJECTS

A combined cycle power plant with a capacity of 1574 MW expected to be built in the Turkmenbashi etrap of Balkan velayat.



ELECTRIC POWER INDUSTRY NEW PROJECTS

In accordance with the “Program of the President of Turkmenistan for the socio-economic development of the country for 2022-2028”, in 2028 it is planned to bring the total volume of electricity production to 37.5 billion kilowatt-hours, that is, to increase its volume by 22.5% compared to 2022.

All major energy projects being implemented are of regional and international importance. In implementing the projects, Turkmenistan take steps to ensure environmental protection. The active implementation of energy-saving, environmentally friendly technologies, the use of highly efficient and reliable equipment is the main direction of country’s socio-economic programs.

ELECTRIC POWER INDUSTRY NEW PROJECTS

The country regularly implements environmental protection measures. In the construction of industrial facilities, including energy production ones, much attention is paid to the introduction of modern technologies to reduce the amount of harmful waste released into the environment. Solar and wind power projects, which are renewable energy sources, are also promising. RES is the energy of the future.



ELECTRIC POWER INDUSTRY NEW PROJECTS

Solving these problems will strengthen the country's energy security and independence, ensure the efficiency of electricity production and consumption, as well as export to foreign countries and will contribute to the further economic growth of the country and the entire region.

**Thank you for your attention and I want to express my gratitude to the organizers of this forum, fruitful to all of us.
Thank you!**