Country Assessment Report

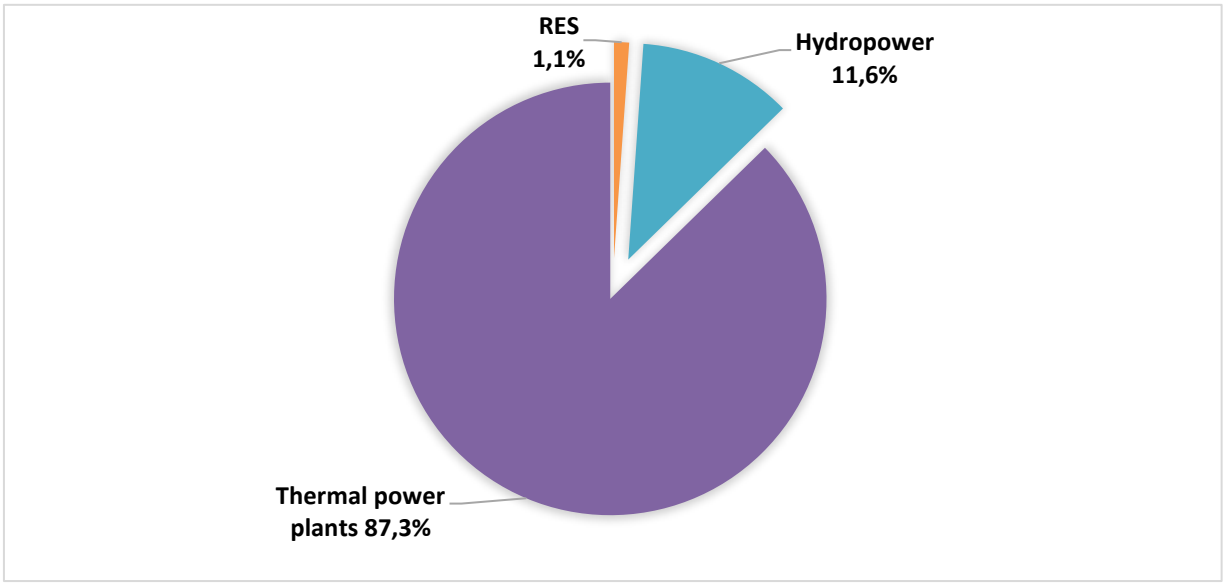
Country/Region name

Uzbekistan, officially known as the **Republic of Uzbekistan**, is a landlocked country located in Central Asia. It shares borders with Kazakhstan to the north, Kyrgyzstan to the northeast, Tajikistan to the southeast, Afghanistan to the south, and Turkmenistan to the southwest. Uzbekistan covers an area of 448,978 square kilometers and is characterized by diverse landscapes. With a population of around 35 million people, Uzbekistan is the most populous country in Central Asia. In terms of the energy sector, Uzbekistan relies heavily on natural gas and coal for electricity generation. However, recognizing the importance of diversification, the country is actively working to increase the share of renewable energy sources in its energy mix. Uzbekistan has substantial potential for renewable energy, particularly in solar and wind power. The government has set ambitious targets to enhance the contribution of renewables and has implemented policies to attract investments in renewable energy projects.

Generation and demand: (type, MW,TWh)

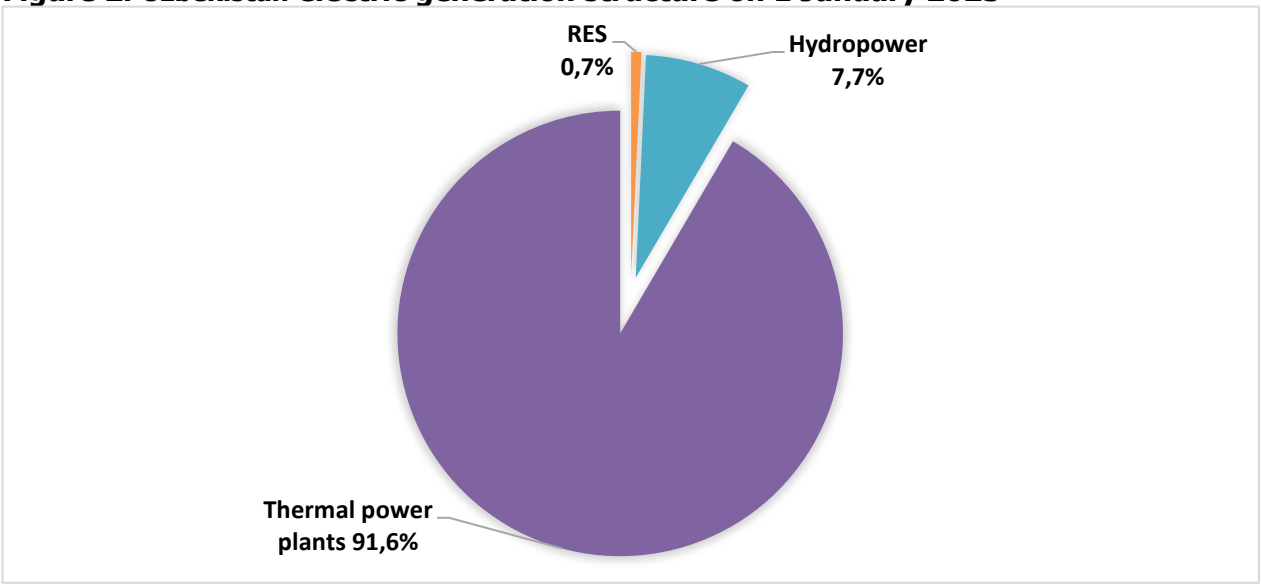
Electricity in Uzbekistan is generated by 100 power plants. Installed capacity of power plants is 17,902 MW and mainly represented by thermal power plants (87.3%). The installed capacity of renewable energy sources (RES) on First January 2023 is 2,271.2 MW, including: hydropower – 2,070.4 MW, solar power – 200 MW, wind power – 0.75 MW, biogas power – 0.0 MW. Thus, the share of RES in Uzbekistan installed capacity is 12.7%.

Figure 1. Uzbekistan installed capacity structure on 1 January 2023



Electricity generation of Uzbekistan on 1 January 2023 amounted to 80.8 TWh, renewable energy sources have generated 6.8 TWh or 8.4% (including hydropower – 6.2 TWh, solar power – 0.6 TWh, wind power – 0.001 TWh, biogas power – 0.00 TWh).

Figure 2. Uzbekistan electric generation structure on 1 January 2023



DEMAND потребность в электроэнергии Узбекистан

Electrical interconnection and import/export

The joint-stock company "National Electric Grid of Uzbekistan" (NEG) was established in accordance with the Decree of the President of the Republic of Uzbekistan dated March 27, 2019 No. PP-4249 "On the Strategy for the Further Development and Reformation of the Electric Power Industry in the Republic of Uzbekistan". NEG is part of the Ministry of Energy of the Republic of Uzbekistan.

JSC "NEG" carries out the export and import of electric energy, as well as interaction with the electric power systems of neighboring countries.

In 2022, balance-flow to Central Asia amounted to 8.3 TWh (the export to Central Asia was 2.7 TWh, the import – 5.6 TWh.)

https://www.uzbekistonmet.uz/en/lists/view/69

Historical support or development of renewables in the country/region:

In 1993, Uzbekistan became a party to the UN Framework Convention on Climate Change. In 1997, Uzbekistan ratified the Kyoto Protocol and entered into force in 2005, which defines mechanisms to limit greenhouse gas emissions. Already in 1997, the first legislative initiatives appeared. The law " About the rational use of energy " was adopted, aimed at supporting the use of renewable sources in the production of heat and electricity.

In May 2017, in order to effectively use the country's hydropower potential, to form a unified water and energy resources management system, to consistently increase the share of renewable hydropower resources in the structure of electric power generation, joint stock company

"Uzbekhydroenergo" was created.

(https://uzgidro.uz/)

In May 2019, the law "On the use of renewable energy sources " was adopted, which includes benefits and preferences in the field of use of renewable energy sources like:

- Energy producers from renewable energy sources are exempted from paying property tax for renewable energy installations and land tax in the areas occupied by these installations (with a nominal capacity of 0.1 MW or more) for a period of ten years from the date of their commissioning;

- Producers of the installations of renewable energy are exempt from all types of taxes for a period of five years from the date of their state registration.

- The property tax of individuals is not subject to property owned by persons using renewable energy sources in residential buildings with a complete disconnection from existing energy networks for a period of three years starting from the month of using renewable energy sources.

- Persons using renewable energy sources in residential premises with complete disconnection from existing energy networks for a period of three years starting from the month of using renewable energy sources are exempted from the land tax.

(https://lex.uz/docs/4832510)

Table 1. Uzbekistan Renewable Energy Sector Current Situation

Indicator	capacity
Share of electric energy produced by renewable energy facilities in the total volume of 2022 electricity production	8.4%
Total installed capacity of renewable energy facilities by 2022,	
including:	2,271.2 MW
1) Hydro Power	2,070.4 MW
2) Solar power, using solar PV energy converters	200 MW
3) Wind power	0.75 MW
4) Biogas Power	0 MW

In December 2022, The Decree of the President of the Republic of Uzbekistan "On measures to improve the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a "green" economy until 2030" was adopted, according to which it is approved

a) The program for the transition to a "green" economy and ensuring "green" growth in the Republic of Uzbekistan until 2030, designed to achieve the following strategic goals:

- reduction of specific greenhouse gas emissions per unit of gross domestic product by 35 percent from the 2010 level;

- increasing the production capacity of renewable energy sources up to 15 GW and bringing their share in the total volume of electricity production to more than 30 percent;

- increasing energy efficiency in industry by at least 20 percent;

- reduction of energy intensity per unit of gross domestic product by 30 percent, including through the expansion of the use of renewable energy sources;

- a significant increase in the efficiency of water use in all sectors of the economy, the introduction of water-saving irrigation technologies on an area of up to 1 million hectares;

- expanding green spaces in cities to over 30 percent by planting 200 million seedlings a year and bringing the total number of seedlings to over 1 billion;

- bringing the index of the reserves of the forest fund of the republic to more than 90 million cubic meters;

- increasing the level of processing of generated household waste to more than 65 percent;

b) The Concept of transition to a "green" economy and energy conservation in industries.

c) Action Plan for the transition to a "green" economy and ensuring "green" growth in the Republic of Uzbekistan until 2030;

d) Target parameters for saving fuel and energy resources in sectors of the economy in 2022-2026, aimed at reducing the energy intensity of products manufactured by 25 enterprises and organizations by 20 percent in 2026 compared to 2022.

(https://lex.uz/docs/6303233)

Electricity market structure:

The specifics of the technological process of production, distribution and consumption of electricity make it necessary to maintain centralized management, with joint-stock companies, such as JSC "**Thermal Power Plants**", JSC "**National Electric Grid of Uzbekistan**" and JSC "**Regional Electric Grid**", under The Ministry of Energy.

Transmission of electrical energy from the generating sources of JSC "Thermal Power Plants" to the distribution and sales enterprises of JSC "Regional Electric Grid" is carried out by JSC "National Electric Grid" of Uzbekistan through its main electric grids with a voltage of 220-500 kV.

(https://minenergy.uz/en/lists/view/22)

JSC "Thermal Power Plants" - carries out the task of generating electricity and provides a certain amount of electricity and heat to meet the needs of the economy and the population of the country.

The company has 6 thermal power plants, 3 thermal power centers and 3 organizations providing services to enterprises of the industry. In 2022, the enterprises of the JSC Thermal Power Plants produced 55.5 bln. KWh of electricity and 5.3 million Gcal of heat energy.

(https://tpp.uz/en/page/issiqlik-elektr-stanciyalari-akciyadorlik-zamiyati)

JSC "Regional Electric Grid" - the main functions of which are to manage enterprises of territorial electric networks distributing and selling electricity to end consumers.

For the period January 1, 2023, the state of the electrical networks that are in the assets of JSC "Regional Electric Grid":

- The total length of power transmission lines with a voltage of 04-110 kV (270,266.2 km)

including 110 kV - 15,379.2 km; 35 kV - 13,492.3 km; 10 kV - 88 211.0 km; 6 kV - 14,079.2 km; 0.4 kV - 139 104.5 km.

- Total number of transformer points (95,789 units)

including, up to 10/0.4 kV - 78,291 units, 6/0.4-160 kV - 17,498 units

- The total number of transformer substations (1,788 units),

including 110 kV - 715 units; 35 kV - 1,073 units

(https://www.het.uz/ru/pages/view/general_info)

"**National Electric Grid of Uzbekistan**" - the main activities of the company are the operation and development of the main electric networks of the Republic of Uzbekistan, the supply of electricity through the main electric networks and the implementation of interstate transit, cooperation with electric power systems of neighboring countries.

(https://www.uzbekistonmet.uz/en/lists/view/79)

Responsible government department:

The Ministry of Energy of the Republic of Uzbekistan in its present form was established by the President's Decree of 01.02.2019 "On measures to Radically Improve the Management System of the Fuel and Energy Industry of the Republic of Uzbekistan". The Ministry of Energy regulates the production, transmission, distribution and consumption of electric and thermal energy, coal, as well as extraction, processing, transportation, distribution, sale and use of oil, gas and their products.

The Ministry of Energy has a number of objectives, including:

Regulation of the energy sector;

Implementation of production sharing agreements and supervision of their execution;

Development of PPP (public-private partnership) arrangements;

Improving the tariff policy to facilitate the formation of a competitive business environment, increasing and diversifying energy production;

Implementation of modern corporate governance in the energy sector, including taking into account the World Bank's proposal to optimize production processes.

Mirzamakhmudov Dzhurabek Tursunpulatovich, The Ministry of Energy of the Republic of Uzbekistan (reception phone number: [redacted], e-mail: info@minenergy.uz.)

Existing/Planned energy legislation:

The main law regulating the entire legislative framework of the Uzbekistan electricity sector is the law of the Republic of Uzbekistan dated September 30, 2009 No. LRU-225 "On Electric Power Industry".

Decree of the President of the Republic of Uzbekistan dated July 19, 2018 No. UP-5484 "On

Measures for the Development of Nuclear Energy in the Republic of Uzbekistan".

Decree of the President of the Republic of Uzbekistan dated March 27, 2019 No. PP-4249 "On the Strategy for the Further Development and Reformation of the Electric Power Industry in the Republic of Uzbekistan".

Decree of the President of the Republic of Uzbekistan dated March 27, 2019 No. PP-4249 "On the Strategy for the Further Development and Reformation of the Electric Power Industry in the Republic of Uzbekistan".

https://minenergy.uz/en/lists/view/14

https://minenergy.uz/en/lists/view/24

Environmental and Renewable electricity legislation:

The law No. LRU-539 "On the use of renewable energy sources" dated May 21, 2019 is aimed at supporting and developing renewable sources in the country.

Decree of the President of the Republic of Uzbekistan On Accelerated Measures to Improve Energy Efficiency of Economic and Social Sectors, the Introduction of Energy-Saving Technologies and the Development of Renewable Energy Sources dated 22.08.2019 No. PP-4422.

https://lex.uz/docs/4832510

https://lex.uz/docs/4486127

Hydropower legislation:

Decree of the President of the Republic of Uzbekistan, dated May 18, 2017 No. UP-5044 "On formation of Joint stock company **"UZBEKHYDROENERGO"**.

Decree of the President of the Republic of Uzbekistan, dated May 18, 2017 No. PP-2972 "On measures to organize the activities of joint stock company "UZBEKHYDROENERGO".

Decree of the President of the Republic of Uzbekistan, dated March 30, 2023 No. PP-104 "On measures to further reform the hydropower sector".

https://uzgidro.uz/

Existing/Planned energy certificate systems: (purpose, extent)

Currently there is no EAC system operating in the Country.

Response from Government in relation to attribute tracking systems:

Decree of the President of the Republic of Uzbekistan dated May 12, 2023 No. PP-156 "On measures to implement the "green energy" certificate system". According to this, the Ministry of Economy and Finance of the Republic of Uzbekistan (the issuer) is responsible for maintaining the "green energy" certificate system, in particular the registration of generation facilities, the issuance, issuance of generation facilities and keeping records of the movement of green energy certificates;

https://lex.uz/docs/6464658

Analysis of political disruptions or market risks:

No political disruptions or market risks for introduction of I-REC standard in Uzbekistan have been identified. The overall mechanism goes in line with the governmental policy to reach RES and carbon neutrality targets.

Analysis of regulatory risks including linkages with carbon markets and support systems:

No regulatory risks for introduction of I-REC standard in Kazakhstan have been identified

Mechanisms in place to support the reliable verification and issuance of I-RECs:

No mechanism exists either private or national, which means a greenfield for the I-REC platform to fill the demand.

Local organizations of importance and their opinion on local I-REC market development:

I-REC certification is a next step of the local RE market development. Local organizations of importance understand well trends on global climate agenda and now start to develop a corporate strategy focusing on reaching carbon neutrality/decreasing carbon footprint, etc. -IREC certification is an instrument allows to achieve corporate target in decreasing carbon footprint in day-to-day operation thus we see a strong potential implementing the system locally.

Any other relevant information: