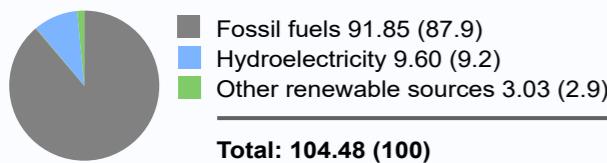


Kazakhstan • Coal, Uranium, Electricity and Renewable energy

Gross electricity generation 2021, TWh (%):



Source: Based on the U.S. Energy Information Administration data (Sep 2023).

Coal power plants over 200 MW, MW:

- 1 Ekibastuz GRES-1, 4000
- 2 Aksu, 2450
- 3 Karaganda TETS I-III, 1137
- 4 Ekibastuz GRES-2, 1000
- 5 Pavlodar I-III, 980
- 6 Almaty I-II-III, 828
- 7 Karaganda GRES-2, 663
- 8 Petropavlovsk II, 541
- 9 Ust-Kamenogorsk, 372
- 10 Astana (Tselinograd) I-III, 360
- 11 Rudy, 267
- 12 Zhezkazgan, 220

- 1150 kV lines in service
- 500 kV lines in service
- National grid 1150 kV of other power plants, grid connection points, substations
- National grid 500 kV of other power plants, grid connection points, substations
- Border crossing

In 2019 Kazakhstan had 26.2 GW of electricity installed generating capacity. Gross theoretical hydropower capability, related to Kazakhstan is 170.0 TWh/year. As of 2018, Kazakhstan registered more than 20 small-scale hydro-power plants up to 35 MW with a total installed capacity of 200.2 MW.

Sources: U.S. Energy Information Administration (2020); World Small Hydropower Development Report 2019; Used by permission of the World Energy Council (2013); Wikipedia.

Key hydro power plants over 100 MW, MW:

- 1 Shulbinskaya, 702
- 2 Buchtarminskaya, 675
- 3 Kapshagay (Kapchagay), 364
- 4 Ust-Kamenogorsk (Oskemen), 339
- 5 Moinakskaya, 300
- 6 Shardariniskaya, 100

Key gas power plants over 200 MW, MW:

- 1 MAEK, 625
- 2 Atyrau, 314

Global Horizontal Irradiation (GHI) Wind speed

0.0 m/s

Gross electricity generation from renewable sources by 2021, TWh (%):



Source: Renewable Energy Statistics 2023 © IRENA

Key coal mine basins:

Key coal mine basins:

- 1 Ekibastuz
- 2 Karaganda
- 3 Maikuben
- 4 Turgay



Major biogas plants:

- 1 Shymkent
- 2 Vostok (Karasu)

Key combined power plants over 200 MW, MW:

- 1 Zhambyl, 1230

Key oil power plants over 200 MW, MW:

- 1 Kashagan, 238



High activity areas:

The most common solar GHI intensity is 4.5 - 4.6 kWh/m² per day, distributed in the southern part of country, Yuzho-Kazakhstanskaya oblast' (Turkistan Region).

The most common wind speed is over 8.0 m/s at 50 m are distributed in southern part of country, between Turkistan (Yuzhno-Kazakhstanskaya) and Kyzylorda Regions.

Source: Energydata.info

Solar PV power plants over 1 MW, MW:

- 1 Burnoye Solar I, 50.0
- 2 Kapchagay, 2.0
- 3 Mangystau, 2.0

Wind power plants over 1 MW, MW:

- 1 Ereymentau, 45.0

Key uranium mines by production capacity in 2016, tU:

- 1 Chu-Sarysu, Northern region, 13 430
- 2 Chu-Sarysu, Eastern region, 4795
- 3 Syrdarya, Western region, 4997
- 4 Syrdarya, Southern region, 828
- 5 Northern, Akmola region, 511