

How much solar power does Kazakhstan have?

In just five short years, solar power capacity has catapulted to 300 megawatts nationwide, and if you add other renewables like wind and hydropower, that number exceeds 700 megawatts, enough power to supply around 200,000 families in Kazakhstan. To understand just how remarkable this is, you have to know the context.

Is Kazakhstan a good place to invest in solar power?

Kazakhstan has remarkable solar potential with a very well-designed auction system, a clear renewable capacity addition schedule, and a solid decarbonisation target. The country is now also including storage systems as part of its public procurement strategy in a move that will ease further integration of renewables into the grid.

Is solar energy a viable energy source in Kazakhstan?

In 2019, another solar power plant in Kazakhstan, Saran, with a capacity of 100 MW started its operation in the Karaganda region (Satubaldina, 2020). According to the International Energy Agency (IEA), within the period of 40 years, solar energy has a potential to meet about 20-25% of the energy demand of the country.

What is the energy potential of Kazakhstan?

Kazakhstan has significant potential for renewable energy. The wind potential is estimated to be 1.8trn kWh per year, which is close to 10 times Kazakhstan's current energy consumption, according to UN estimates. Solar energy also has great potential given the number of sunny hours per year, typically between 2,200 and 3,000 hours, implying a capacity of 1,300-1,800kW/sqm per year. Hydro power is another renewable energy source with potential in Kazakhstan.

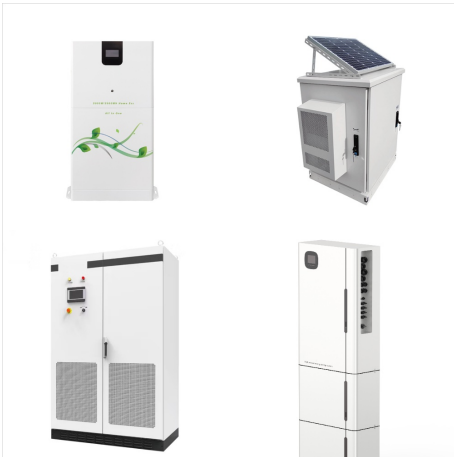
Where are solar power plants located in Kazakhstan?

In 2019, Nurgisa solar power plant with a capacity of 100 MW in Kapshagay, Almaty region started its operation (informburo.kz, 2019). In 2019, another solar power plant in Kazakhstan, Saran, with a capacity of 100 MW started its operation in the Karaganda region (Satubaldina, 2020).

What is Kazakhstan's First Solar power plant?

The plant is to produce solar cells using Kazakhstan's silicon. The designed capacity of photovoltaic wafers is

50 MW with a potential to increase up to 100 MW. In 2012, the first solar power station, "Otar," that generates 0.5 MW of energy, was also built in the Zhambyl region.



The potential of solar energy in Kazakhstan is estimated at 2.5 billion kWh per year, which corresponds to an area of about 10 km² of solar cells with a total efficiency of 16%. The average efficiency of modern solar panels varies in the range of 15-25%. Solar energy can be widely used in two-thirds of the territory of the Republic of Kazakhstan.



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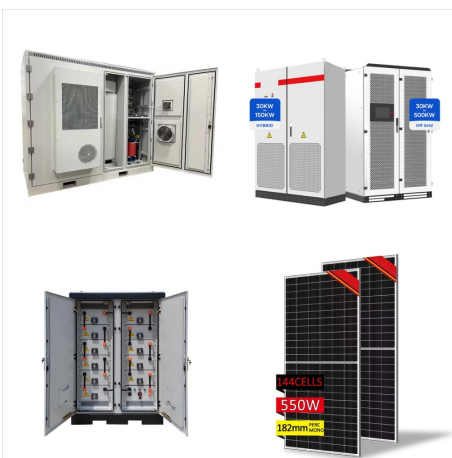
In just five short years, solar power capacity has catapulted to 300 megawatts nationwide, and if you add other renewables like wind and hydropower, that number exceeds 700 megawatts, enough power to supply ???



The largest Central Asian country, Kazakhstan, has a great potential of solar energy. The amount of solar radiation is 1300-1800 kWh per square meter per year (CaRNet, n.d.) (Figure 1). Annual potential of solar energy is estimated to reach 2.5 billion kWh.



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The Solar Resources Atlas of Kazakhstan is developed by the company <<Sapa Pro& Tech>> Solar resources Maps of solar radiation indicators (direct, diffuse, total, etc.) constructed on the basis of climatic bases that are in open access ???



This report builds on the first edition of solar investment opportunities in Kazakhstan and provides the latest economic and political advancements in the country, including the announcement of Kazakhstan's new decarbonisation target for 2060, and the recent Memorandum of Understanding signed between the EU and Kazakhstan, stepping up



There is enormous potential for renewable energy in Kazakhstan, particularly from wind and small hydropower plants. The Republic of Kazakhstan has the potential to generate 10 times as much power as it currently needs from wind energy alone.



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The Kapshagay photovoltaic power station, one of the largest single solar power projects in the Central Asian country, is a part of the China-Kazakhstan green energy cooperation initiative, jointly invested in and constructed by the Chinese company Universal Energy and Kazakh counterparts.



According to the Law of Kazakhstan on support of RES, RES are energy sources continuously renewable through naturally occurring natural processes, including the following types: solar energy, wind energy, hydrodynamic energy of water; geothermal energy (heat of soil, groundwater, rivers, reservoirs); and man-made/anthropogenic sources of primary