

What are the prospects for solar energy in Russia?

Prospects for solar energy are very high for some regions. These include: areas surrounding the Black and Caspian Seas. According to the operator of the Unified Energy System, the share of electricity produced by solar energy in Russia is 0.03% of the total.

How much solar radiation does Russia have?

The amount of solar radiation fluctuates greatly due to the geographical location of Russia. In hot regions, it is 1400 kWh/m², and in cold regions it is 810 kWh/m². It also depends on the time of year. It is higher during the summer months and vice versa in winter. Prospects for solar energy are very high for some regions. These include:

How much energy does Russia use?

Russia's current electricity consumption reflects a heavy reliance on fossil fuels, constituting over 64% of the total mix, with gas alone accounting for almost 45% and coal for nearly 19%. Low-carbon energy sources contribute approximately 36% to the electricity mix, with nuclear power generating about 18% and hydropower close to 17%.

How clean is Russia's electricity?

Russia's largest source of clean electricity is nuclear (18%). Its share of wind and solar of less than 1% is far below the global average (15%). Russia relied on fossil fuels for 64% of its electricity in 2024. Its emissions per capita, 3.8 tCO₂, were more than twice the global average.

Will Russia's renewables growth rate affect gas consumption?

The renewables growth rate in Russia's energy balance will be at its lowest and will not affect gas consumption. The existing Russian national programs on promoting renewable energy until 2024 may be reconsidered.

Does Russia have a high electricity consumption?

The growth of electricity consumption in Russia appears promising, with the latest data showing an increase to 8,351 kWh per person, a rise of 249 kWh/person from the previous year. However, despite this overall growth, there is a slight setback in low-carbon electricity generation, which decreased to 3,001 kWh/person from a previous high in 2021.

The paper offers the outcomes of the foresight study of the Russian renewable energy sector and focuses on three areas: converting solar energy into electricity; converting wind energy into ...

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