

# Large-scale wind and photovoltaic power generation base

Where is the world's largest wind power & photovoltaic base project located?

The world's largest wind power and photovoltaic base project in China, which is a 10-million-kilowatt new-energy base, began construction in Ordos, North China's Inner Mongolia Autonomous Region.

How can we accelerate the construction of large-scale wind and PV power bases?

To accelerate the construction of large-scale wind and PV power bases in deserts and Gobi areas, and actively promote the construction of multi-energy and complementary clean energy bases in the upper Reaches of the Yellow River, Xinjiang and northern Hebei.

How much power is generated by solar and wind power?

The annual cumulative power generation of wind and PV power reached 978.5 billion kWh, up 35% year-on-year, accounting for 11.7% of the total power generation, an increase of 2.2 percentage point over the previous year (Fig. 1).

## 3. Policies of integrated development in solar and wind power generation

What is the growth rate of wind and photovoltaic power in China?

During the 12th Five Year Plan for Economic and Social Development of the People's Republic of China (12th Five-Year Plan) period, the combined annual power generation of wind and photovoltaic (PV) power in China accounted for less than 4%, annual growth of about 0.6% (Fig. 1).

Will China build a wind and solar power base in 2022?

According to a plan issued by the National Development and Reform Commission (NDRC) and the NEA in 2022, China will build wind and solar power bases with an installed capacity of 455 million kilowatts by 2030. China's southwest can support both hydro and wind power due to its varied landscape, comprising rivers and mountains.

Where is the photovoltaic power base located?

This photo taken on March 3, 2023 shows a view of the photovoltaic power base in Dalad Banner, Erdos, north China's Inner Mongolia Autonomous Region. (Xinhua/Bei He)

“The Ningxia-Hunan UHV power transmission project will deliver power generated at the bases in the Gobi Desert in Ningxia, including 9 gigawatts (GW) of photovoltaic power, 4 GW of wind power and 4.64 GW of ...

Due to the randomness, fluctuation, and intermittence of its renewable energy power output, especially for wind and PV power, the access of large-scale wind-PV power to ...

The Hinggan League wind power project, with an annual electricity generating capacity of over 10 billion

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kilowatt-hours (kWh), was connected to the grid on Sunday. It is one of China's first batch of large-scale ...

Since 2021, China has launched construction on a series of large-scale wind power and photovoltaic base projects in the desert regions, with a combined capacity of nearly 100 million kilowatts. The country is now ...

Concerns over climate change and the negative effects of burning fossil fuels have been driving the development of renewable energy globally. China has also set a series ...

The combined capacity at pre-construction and announced stages for utility-scale solar power reaches 387 GW and 336 GW for wind. This includes the second and third waves of "mega wind & solar bases" with a ...

China will begin to build a second round of large wind and photovoltaic (PV) power stations in sandy, rocky and arid parts of the country, requiring provinces to report a list for the second round ...

The efficiency ( $\eta_{PV}$ ) of a solar PV system, indicating the ratio of converted solar energy into electrical energy, can be calculated using equation [10]: 
$$\eta_{PV} = P_{max} / P_{inc}$$
 ...

The numerical results show that during the peak wind power generation period of 1:00-3:00 and the peak PV power generation period of 8:00-15:00, PHES and EES fully consume the green power by coordinating ...

With the large consumption of non-renewable resources, such as coal, oil, and natural gas, and increasingly severe environmental pollution problems, it is more serious and urgent to replace traditional energy with ...

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It is one of the first large-scale wind and PV power bases to start construction in China's 14th Five-Year Plan (2021-25) period. Covering an area of 100,000 mu (6,666.67 hectares), the project has a total installed ...

China's 2022 national renewable energy development plan mandated accelerated construction of large-scale wind and photovoltaic base projects, particularly in arid and semiarid zones (1). By 2030, China plans to ...

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