European Solar and Energy Storage Solutions

Wind power generation data

Overview

What percentage of electricity is generated by wind?

In 2022, wind generation accounted for ~10% of total electricity generation in the United States. As wind energy accounts for a greater portion of total energy, understanding geographic and temporal variation in wind generation is key to many planning, operational, and research questions.

What are the different types of wind data?

Generally, there are two types of original datasets: simulated datasets and on-site collected datasets. The NREL Wind Integration Dataset is a widely used dataset 13, and it provides simulated wind data from more than 126,000 land-based and offshore wind power production sites with a 2-km grid over the United States at a 5-min resolution.

Where can I find wind speeds and estimated generation?

PLUSWIND provides wind speeds and estimated generation on an hourly basis at almost all wind plants across the contiguous United States from 2018–2021. The repository contains wind speeds and generation based on three different meteorological models: ERA5, MERRA2, and HRRR. Data are publicly accessible in simple csv files.

Are there public wind power datasets?

Publicly available wind power datasets are typically aggregated over spatial regions, lacking turbine-level measurements and turbine-specific power output 17.

How many meters of wind energy are there in the world?

Wind Energy Maps and Data offer results for 140-Meter wind potential and other wind speeds. Search by Keyword, view Data by State, or refer to the Tutorial:Understanding Wind Resource Maps. Specific Power is an important trend in wind energy.

What are wind speeds and generation based on?

The repository contains wind speeds and generation based on three different meteorological models: ERA5, MERRA2, and HRRR. Data are publicly accessible in simple csv files. Modeled generation is compared to regional and plant records, which highlights model biases and errors and how they differ by model, across regions, and across time frames.

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Wind energy generation by region

The Energy Institute Statistical Review of World Energy analyses data on world energy markets from the prior year. Retrieved on. June 20, 2024. Retrieved from. "Data Page: Electricity generation from wind power", part of the following ...

2019 Wind Energy Data & Technology Trends

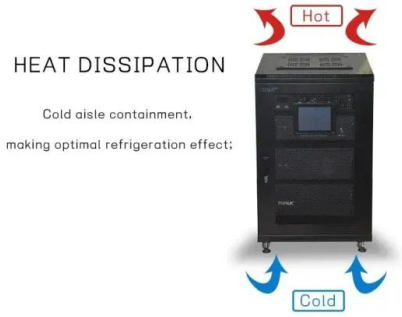
Wind power represented the second-largest source of U.S. electric-generating capacity additions in 2019, behind solar. Improvements in the cost and performance of wind power technologies have also driven wind capacity ...

A collection and categorization of open-source wind and wind power

B1610 provides wind power generation data. Several software can help to work with the data, for example, for python the ElexonDataPortal library 82 can be used. Data are ...

Open Power System Data - A platform for open data of the European power

The platform provides data on installed generation capacity by country/technology, individual power plants (conventional and renewable), and time series data. The latter includes electricity ...



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