

European Solar and Energy Storage Solutions

49 5 MW of wind power generation



Overview

What is the average annual electricity generation of a wind power plant?

As mentioned in Section 2.1, the average annual electricity generation of the studied wind power plant was assumed to be 130 GWh with a curtailment of 20 GWh. The power curtailment was due to the poor power distribution capacity in North China, i.e. the extension of utility grid is not advancing at the same rate as the development of wind power.

Does China have wind power generation?

Wind power generation has increased rapidly in China over the last decade. In this paper the authors present an extensive survey on the status and development of wind power generation in China. The wind resource distributions in China are presented and assessed, and the 10 GW-scale wind power generation bases are introduced in details.

How much energy does a wind power plant produce?

Table 4 lists the results obtained in this study and those of several typical wind power plants that were investigated in previous studies. As shown in the table, ADP fossil ranged from 0.014 to 0.150 kWh/kWh, and GWP ranged from 7 to 440 g/kWh.

How much wind-generated electricity does China generate compared to the US?

By the scale of the vertical axis, the red bar indicates the total difference of –39.3 TWh of wind-generated electricity in China as compared to the US in 2012, with percentages representing the relative contributions to this difference from the different factors (blue bars).

How many processes are involved in a wind power plant?

The investigated system consists of five processes including operation and maintenance, disassembly and disposal of the entire wind power plant, and up-

stream and auxiliary processes, e.g., processing and production of raw materials as well as transportation and installation. Fig. 1 shows all the processes considered in this study.

What data is collected from a wind power plant?

The data of the foreground system, i.e. data related to the wind power plant, were mainly collected from suppliers' technical and maintenance manual (BJNEC, 2012); data of the background system, i.e. upstream and auxiliary processes, were obtained from the Eco invent 2.2 database.

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NUST's Energy Research Center Investigates ...

Wakes induced by upstream wind farms have been observed to reduce wind speed and power output by up to 15% and 35%, respectively. The observed data obtained from FFCEL for their 33 x 1.5 MW Nordex S77 type ...

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