Wind power generation on the grassland

Does wind power increase the diversity of meadow grasslands?
The results showed that wind power operation significantly reduced the dominance of Poaceae and Cyperaceae plants in both types of grasslands and significantly increased the Shannon diversity of meadow grasslands.

Do wind farms affect grassland plant communities?
Hence,our results are the phased results of the multiyear effect of wind farms on grassland plant communities. Compared with the CK area,wind power operation led to an increase in grassland plant productivitybut a decrease in the dominance of Poaceae and Cyperaceae,which are the most favored forages for cattle and sheep .

Does wind power improve plant productivity in grasslands?
The results of Liu et al. indicated that the effect of wind power operation on plant productivity varied by grassland type. We found that wind power operation could improve plant productivity in grasslands,which is consistent with the results of Li et al. and Qiu et al. .

How to manage grassland wind farms?
Furthermore, the results have important guiding significance for the management of grassland wind farms. We suggest strengthening the monitoring of plant community composition by focusing on plant biomass and diversity to realize the sustainable utilization of wind energy and plant resources.

Does wind power affect grassland forage quality?
Compared with the CK area,wind power operation led to an increase in grassland plant productivity but a decrease in the dominance of Poaceae and Cyperaceae,which are the most favored forages for cattle and sheep . Therefore,wind power operation may lead to a decline in grassland forage quality.

Does wind power affect grassland community composition?
As an important clean energy source,the scale and quantity of wind power have steadily increased under the background of global change. The construction and operation of wind power facilities have massive impacts on grassland microclimates. However,the effect of wind power operation on the plant community composition is still unclear.

Different from the results in earlier qualitative studies, we find that the difference in wind resources explains only a small fraction of the present China-US difference in wind ...

a-d) show the distribution of wind power of the Gobi grassland wind farm in groups o 0-5 m/s, 5-10 m/s, 10-15 m/s, and >15 m/s. ... can reasonably arrange the power ...

According to the official monitoring data of the project feasibility report, the average annual power generation of a single unit of the wind farm in the study area is 4.314 ...

with wind power plants is the footprint of the project as a whole. However, unlike the area occupied by roads and pads, the total area is more challenging to define and subjective in ...

(3), (4), this average value was then used to estimate the potential power available (GW) from installed onshore wind generation in Scotland (3) area m 2 × WPD W m - ...

This study uses a difference-in-differences approach to investigate the effect of county wind power development on grassland quality in China. We find robust evidence that ...

algorithm, we systemically explored the predictability and optimization of wind speed of the Gobi grassland wind farm. 2. Observational Site and Methodologies 2.1. Observational Site The ...

6 ???· A wind power class of 3 or above (equivalent to a wind power density of 150-200 watts per square meter, or a mean wind of 5.1-5.6 meters per second [11.4-12.5 miles per hour]) is ...

Taking power generation in September 2018 as an example, thermal power, hydropower, wind power and nuclear power generation accounted for 69.98%, 21.13, 4.31, and 4.58% of total power generation, respectively. However, the ...

Heilongjiang Daqing Green Grassland Wind Farm is a 49.5MW onshore wind power project. It is located in Heilongjiang, China. According to GlobalData, who tracks and profiles over 170,000 ...

The inflow conditions at different wind speeds, wind shears, and turbulence intensities can lead to considerable influences on the power generation efficiency and wake characteristics of a ...

The results showed that wind power operation significantly reduced the dominance of Poaceae and Cyperaceae plants in both types of grasslands and significantly increased the Shannon diversity...

impacts on grassland microclimates. However, the effect of wind power operation on the plant community composition is still unclear. To investigate this issue, we selected wind farms in 6 ...

Download scientific diagram | (a-d) show the distribution of wind power of the Gobi grassland wind farm in groups o 0-5 m/s, 5-10 m/s, 10-15 m/s, and >15 m/s. from publication: Forecasting and ...

the effect of wind power development on grassland quality. Specifically, we compare counties with and without wind power development before and after the operation of wind farms with ...

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