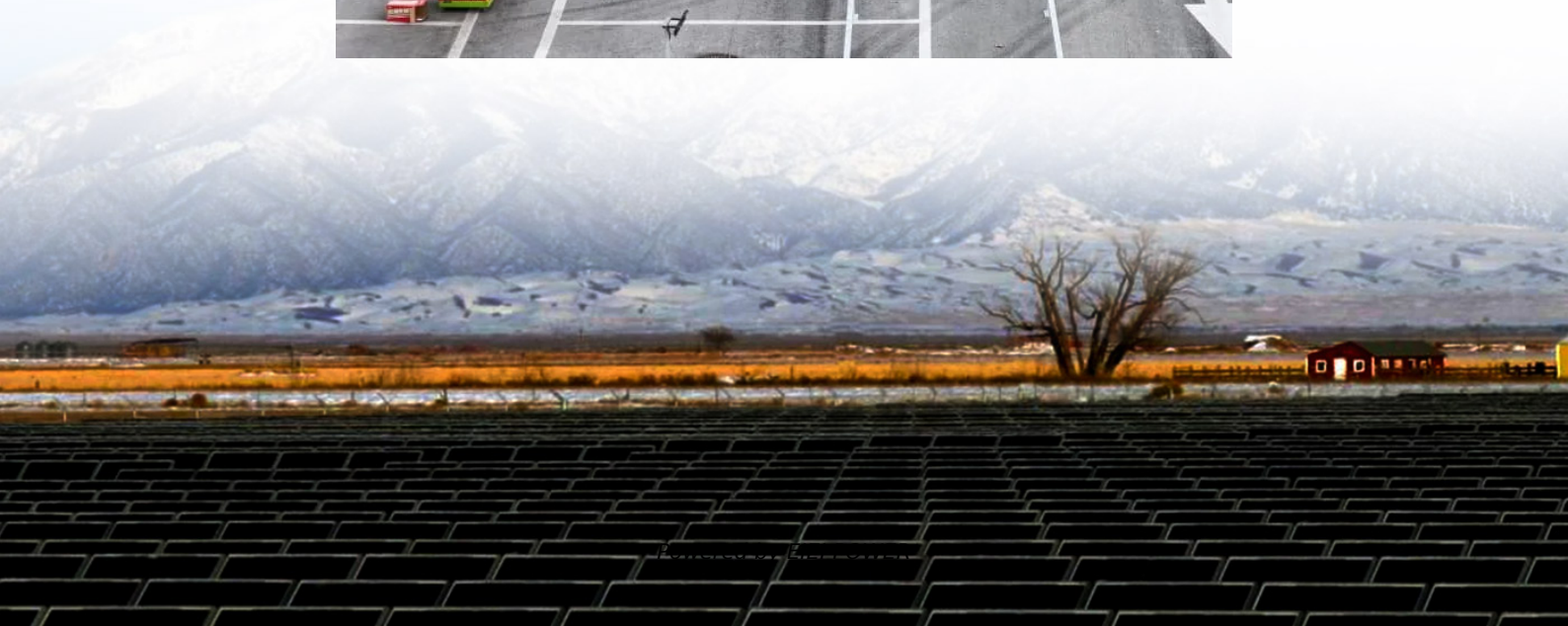


Wind turbine tower ventilation system





Overview

Can wind towers improve performance in natural ventilation?

This study proposes a new design of wind towers that improves the performance of wind towers in natural ventilation. The proposed wind towers have several important features, including: Using channel, the air flows to any part of the building. The previously designed wind towers and cool towers generally require evaporative cooling systems.

What is a vertical wind turbine ventilator?

The model of a vertical wind turbine ventilator was created, as shown in Figure 1a, and consists of two parts: fresh air intake and turbine extractor. The principle of the turbine ventilator design was to provide active and passive ventilation through using the air intake vent for air supplying and the rotating turbine for extracting stale air.

Can a wind driven turbine ventilator improve indoor air quality?

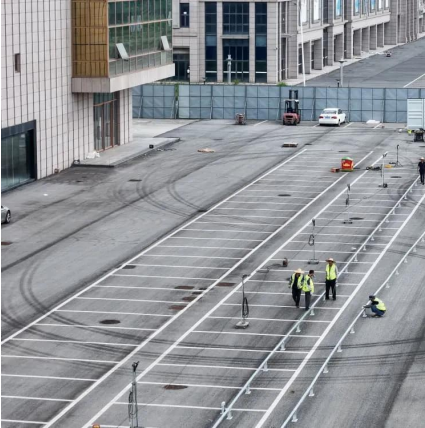
This study hypothesises the development of a new concept of home ventilation system that employs a wind driven turbine ventilator, as a means to reduce energy consumption and improve indoor air quality in a building.

What is the principle of turbine ventilator design?

The principle of the turbine ventilator design was to provide active and passive ventilation through using the air intake vent for air supplying and the rotating turbine for extracting stale air. The study adopted Jadhav et al. (2016)'s CFD simulation approach of the wind tunnel domain setup for numerical simulations.



Wind turbine tower ventilation system



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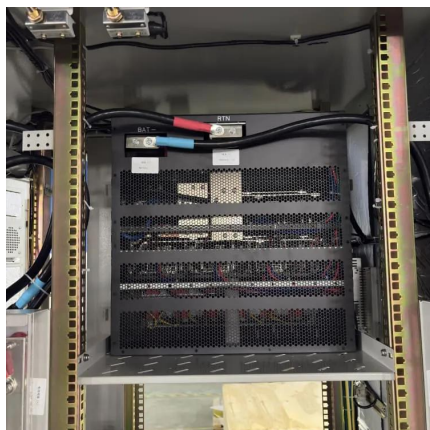


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