What are the patents for wind tower power generation

What are the different types of wind energy patents?
These patents cover inventions related to ofshore wind energy, including key technology concept groupings such as: fixed and floating foundations, towers, mechanical power transmission, blades and rotors, hybrid systems, energy storage, and grids and submarine cables.

When did wind energy technology become a patented technology?
Following an initial phase marked by limited patent filings, the patenting activity in ofshore wind energy technologies experienced a notable surge starting in 2006. Subsequently, a period of consistent annual expansion persisted until 2012.

How many wind energy patents are there?
However, it is worth noting that patent filings specifically classified as "ofshore" are too few to conduct meaningful analysis, so we expanded the search to include all wind energy patents. Between 2002 and 2022, the number of patent filings covering these two technologies increased by a factor of fourteen.

Which countries patent wind power?
Wind power has seen an increase in worldwide patenting activity between 2001 and 2018. The most prolific patent filers worldwide are the State Grid Corporation (China),General Electric (US) and Vestas (Denmark). Our research shows that the UK is more specialised in wind power compared to other European nations.

Which country patents the most offshore wind power?
Of the top ten patenting countries,our research shows that the UKis the most specialised country for offshore wind power patenting. This is consistent with reports that the UK is the global leader in offshore wind,with more capacity installed than any other country.

How many ofshore wind energy patents are there?
This study identifies approximately 17 000 patent families related to ofshore wind energy technologies published between 2002 and 2022, as well as revealing a significant surge from 2015 onwards. European countries, particularly Denmark and Germany, have taken the lead in generating inventions.

Brush"s wind turbine was mounted on a 60-foot tower with rotor blades that were 56 feet in diameter. It turned very slowly as it had 144 blades that covered 1,800 square feet of ...

FIELD: power engineering. SUBSTANCE: invention relates to a wind power generation tower (versions). Wind power generation tower comprises a wind collection section including wind ...

14. A wind power plant comprising: a plurality of wind turbines connected with an internal grid, wherein the

plurality of wind turbines comprises a first wind turbine comprising: a ...

Abstract: A marine wind power generation floating body according to an embodiment of the present disclosure can be coupled to a tower used for wind power ...

the tower 4 and the support portion 2b have a hollow structure, and an operator can access the inside of the nacelle 10 from the tower 4 through the inside of the support member 2. Since the ...

CONSTITUTION: A power generation system using wind force and tidal force comprises a tidal power generator(100), a wind power generator(200), a base(300), a coupling unit(400), and a ...

ZENA" WIND TOWER power generation is a trademark registered in Japan and its patent is open to the public. Please refer to the Japan Patent Office Website (Industrial Property Digital Library) for details of ZENA"s patent. (Domestic ...

Patents were identified with a significant focus on Machines, Structure, Applications in Vehicles, Methods, and Control, that apply the concept of a horizontal axis wind turbine ± HA WT ...

Strong IP protection -1 patent & 7 patents pending Design basis assessment by TÜV SÜD NOVEL APPLICATION FOR NATURE"S CARBON FIBRE Innovation Modules 24x4m 10t ...

The wind power generation systems utilize a propeller disposed behind a contracting inlet. ... 2016-02-15 Priority to US15/043,822 priority Critical patent ... where a "wind mill" must be ...

WIND TOWER Power Generation . Differences between existing wind turbines and the Wind Tower. Going Global with International Patent . WIND TOWER Construction Plan; Our Web ...

The present invention discloses a wind power generation tower. The wind power generation tower, according to one embodiment of the present invention, can implement wind power ...

The present invention relates to a wind-power station. More specifically, the present invention relates to a wind-power station for generating power from the kinetic energy of atmospheric air ...

Tunnel-type wind power generation system of the present invention for achieving the above object, a vertical tunnel formed through the mountain in the horizontal direction, and a vertical ...

17 000 patents (from the EPO"s patent database). These patents cover inventions related to offshore wind energy, including key technology concept groupings such as: fixed and floating ...

The wind power generation tower, according to one embodiment of the present invention, can implement wind

power generation by accelerating wind speed even for low speed wind and...

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