

# Patent application conditions for wind turbine power generation

What are some patents based on wind energy technology?

They include General Electric patents for turbine control and rings/shrouds, Clipper and MRIGlobal (NREL) patents for variable speed turbines, Northern Power patents for direct drive turbines, and an early DOE patent describing wind-powered cooling towers. This report focuses on wind energy technology.

What is the maturity map of wind energy patent applications?

Maturity map of offshore wind energy technologies patent applications between 2002 and 2022. NB: The maturity map combines the number of IPFs (vertical axis), the number of patent applicants (horizontal axis) and the number of granted patents (size of bubbles). 32 Espacenet link.

How many generations of wind energy patents are there?

This means that we trace forward through two generations of citations starting from DOE-funded wind energy patents; and backward through two generations starting from the patents owned by leading wind energy organizations. Hence there are two types of links between DOE-funded patents and subsequent generations of patents:

What is a patent for a wind turbine?

The patent at the head of Table 9 (US #7,004,724) is assigned to General Electric and describes a method for avoiding asynchronous loads in wind turbines. Since being issued in 2006, this patent has been cited as prior art by 86 subsequent patents, almost seven times as many citations as expected given its age and technology.

Is wind energy patenting a trend?

Comparing Figure 4 with Figure 1 suggests that the trend in DOE-funded (and WETO-funded) wind energy patenting is in line with the broader trend in this technology, with little activity in the early periods in the analysis, followed by a rapid growth in the early part of this century.

How many wind energy patents are linked to Doe?

In total, 794 of General Electric's wind energy patent families are linked via citations to earlier DOE-funded wind energy patents, 740 of which are linked to WETO-funded patents. Vestas has 380 patent families linked to DOE (345 to WETO), while Siemens has 316 families linked to DOE (296 to WETO).

A method is provided for controlling a wind turbine equipped with a generator that is controlled via a converter. The wind turbine is configured with a boost operation in which electrical power fed ...

The invention relates to a leading edge protection cover for a wind turbine blade. The protection cover comprises first and second longitudinally extending edges, and outer and ...

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At present, the global offshore wind power is accelerating its expansion from near sea to deep sea. The application scenarios of wind power are becoming more diverse. However, the large ...

At wind speeds higher than 12 meters per second, the turbine blades of a typical wind turbine generator are adjusted to control the lift force and let the turbine rotate at its ...

This report describes the results of an analysis tracing the technological influence of wind energy research funded by the U.S. Department of Energy (DOE)'s Wind Energy Technologies Office ...

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