

What are the next-gen wind power innovations?

Here are eight of the most exciting of these next-gen wind power innovations. Horizontal axis wind turbines are the most common turbine arrangement today. However, vertical axis wind turbines (VAWTs) -- where the blades rotate perpendicular to the ground rather than parallel to it -- perform better in inconsistent wind conditions.

Could a multi-turbine power a wind farm?

Norwegian company Wind Catching Systems is developing a floating, multi-turbine technology for wind farms that could generate five times the annual energy of the world's largest, single wind turbine. This increased efficiency is due to an innovative design that reinvents the way wind farms look and perform.

Could a new wind turbine change the world?

Renewable energy could power the world within the next 30 years, and wind power is one of the cheapest, most efficient ways to get there. Except 80% of the world's offshore wind blows in deep waters, where it's difficult to build wind farms. A new design for a radically different kind of wind turbine could begin to change that.

How much power does a 15 MW wind turbine generate?

Two weeks ago, Chinese firm Sany Renewable Energy, part of Sany, a multinational heavy equipment manufacturer, announced that a 15 MW wind turbine was commissioned at a plant in Tongyu, Jilin Province, China. The turbine features an 885-foot rotor and 430-foot blades, generating enough power for 160,000 households annually.

What type of generator does a wind turbine use?

The SCIG which requires a three-stage gearbox in the drivetrain is the most employed generators for wind turbines in the early decades. The Danish wind turbine manufacturers applied the conventional concept of connecting the generator to the grid via a transformer in the 1980s and 1990s.

Do wind turbine generators increase power ratings?

The main focus of wind energy related industries is to identify efficient yet reliable solutions to lower the cost of energy conversions. In recent years, the advancements and enhancements of wind turbine generators managed to increase the power ratings. However, there are a few points to look out for.

Here, a triboelectric-electromagnetic hybrid nanogenerator (FTEHG) is reported with wide working range of wind speed for effectively harvesting various levels of wind energy, such as breezes and moderate and ...

The world's most advanced wind turbine test facility will be built in Blyth, Northumberland, as part of an £86 million investment in wind power R&D facilities that will slash CO2 emissions and...

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The nanogenerator can generate power from wind as weak as 3.6 miles (5.7 km) per hour and has a wind-to-energy conversion efficiency of 3.23%, which dwarfs previous attempts of wind energy scavenging. It also has low manufacturing ...

Generators used in Wind Power Plants. The generators are used in the wind power plant to convert the kinetic energy of wind into electrical energy. There is different generator used according to the power requirement. The below list ...

New World Wind designed the Aeroleaf to rotate without using a belt or a gear, making it a silent generator suitable for any location. Other models. New World Wind also offers two other similar products that capture wind ...

This purchase includes the generator with a built-in charge controller; the turbine blade set is sold separately as a two-for-one deal for GBP 299. Prepare for a dose of innovation! Your delivery includes one sleek box containing the wind ...

The Encyclopedia of the Environment by the Association des Encyclopédies de l'Environnement et de l'Énergie (), contractually linked to the University of Grenoble Alpes and Grenoble INP, and sponsored by the French ...

Wind energy is playing a critical role in the establishment of an environmentally sustainable low carbon economy. This chapter presents an overview of wind turbine generator technologies ...

