

عنوان مقاله:

Application of Fully Green Bio-Composites in Manufacturing of Wind Turbine Blades: A Strategic Review

محل انتشار:

مجله مواد دوستدار محیط, دوره 5, شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 11

نویسندگان:

N Desai - G H Patel College of Engineering & Technology, Gujarat, India

P Bhatt - G H Patel College of Engineering & Technology, Gujarat, India

M Solanki - G H Patel College of Engineering & Technology, Gujarat, India

خلاصه مقاله:

Energy crisis has been posing a great concern on the exploitation of limited resources and causing dramatic impact on the global economy. With the growing shortage of electricity, a rapid evolution has been observed in the wind power technology as a clean source of renewable energy. Along with considering the strength requirements and considerable forces acting on the blades of wind turbines throughout its operating lifetime, the continued growth of the industry also strengthens the need for gaining critical material knowledge for the wind turbine blades. This gives direct rise to challenges in material selection process, a major area of potential improvement. The focus of this review paper is the need for improved material knowledge, advanced, economic, and environmentally friendly materials for wind turbine blades. Present piece of research attempts to conclude various potential green bio-composites which have an edge over the existing conventional materials for the application of wind turbine blades and could prove to be a remarkable advancement in the field of wind energy. Along with the material selection, detailed insights about property requirements for wind turbine blades, problems encountered in the present-day materials, characteristics for selecting reinforced fibres, material testing, and manufacturing process of wind turbine blades have also been studied

کلمات کلیدی:

Wind Turbine Blades, Bio-Composites, Natural Fibres, Biodegradable Matrix, Material property, Biodegradability

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1231961>

