

## Documents

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**On the versatility of graphene-cellulose composites: An overview and bibliometric assessment**  
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### Abstract

Practical benefits of graphene-cellulose composites (GCC) are categorical. Diverse salient features like thermal and electrical conductivity, mechanical strength, and durability make GCC advantageous for widespread applications. Despite extensive studies the basic understanding of various fundamental aspects of this novel complex remains deficient. Based on this fact, a critical overview and bibliometric analysis involving the overall prospects of GCC was made wherein a total of 1245 research articles from the Scopus database published during the year 2002 to 2020 were used. For the bibliometric assessment, various criteria including the publication outputs, co-authorships, affiliated countries, and co-occurrences of the authors' keywords were explored. Environmental amiability, sustainability, economy, and energy efficiency of GCC were emphasized. In addition, the recent trends, upcoming challenges, and applied interests of GCC were highlighted. The findings revealed that the studies on GCC related to the energy storage, adsorption, sensing, and printing are ever-increasing, indicating the global research drifts on GCC. The bibliometric map analysis displayed that among the researchers from 61 countries/territories, China alone contributed about 50 % of the international publications. It is asserted that the current article may offer taxonomy to navigate into the field of GCC wherein stronger collaboration networks can be established worldwide through integrated research activities desirable for sustainable development. © 2024 Elsevier Ltd

### Author Keywords

Bibliometric assessment; Cellulose; GCC; Graphene; Scopus database

### Index Keywords

Energy efficiency, Graphene, Sustainable development; Bibliometric, Bibliometric assessment, Bibliometrics analysis, Cellulose composites, Co-authorships, Graphene-cellulose composite, Mechanical durability, Salient features, Scopus database, Thermal and electrical conductivity; Cellulose; Analysis, Cellulose, Composites, Efficiency, Energy, International, Networks, Research; cellulose, graphene; adsorption, bibliometrics, data base, economic aspect, electric conductivity, human, review, Scopus, sustainable development, systematic review, taxonomy, therapy

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