

# **Graphene Market Size, Share & Trends Analysis Report By Product (Graphene Oxide, Graphene Nanoplatelets, Reduced Graphene Oxide), By Application (Electronics, Composites, Energy), By Region, And Segment Forecasts, 2022 - 2030**

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## **Abstracts**

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### **Graphene Market Growth & Trends**

The global graphene market size is expected to reach USD 3.75 billion by 2030, according to a new report by Grand View Research, Inc. The market is anticipated to expand at a CAGR of 45.9% from 2022 to 2030. This growth can be attributed to the growing electronics industry in emerging economies and high penetration in composites application. Furthermore, the product has also caught the attention of the battery industry owing to its remarkable thermal & electrical conductivity and chemically inert nature.

The market is also witnessing increasing investments in research & development work for increasing the penetration of graphene in batteries. For instance, in 2022, Anaphite, a Bristol-based company, secured USD 4.3 million to invest in improving the EV batteries manufactured using graphene. The company is expected to use the material in lithium-ion batteries for EVs (electric vehicles). Furthermore, the technology is expected to be ready for commercial EV manufacturing by 2028.

The energy sector is one of the key application segments owing to the rising application of graphene-based components for energy storage and energy generation. Graphene coatings are used in various batteries, conductors, and generators to improve energy

efficiency and the overall performance of devices. The product is also used in the de-icing of paints and is responsible for improving wind turbine efficiency

Graphene nanoplatelets and graphene films are the two major products, which are primarily used in electronic goods and devices. The demand for graphene films is expected to gain momentum owing to the growing need for protective coatings on smartphones and flexible electronic devices. This has resulted in an increased production capacity of graphene-based products.

Apart from graphite, other raw materials required for the production of graphene majorly depend on the type of manufacturing process used. Raw materials including copper, sulfuric acid, nitric acid, and hydrazine are either used by commercial manufacturers or research laboratories depending on the production process used. BASF SE, Moon & Star, and Glencore are some of the key raw materials suppliers.

The global graphene market is highly concentrated and is majorly consolidated in developed regions such as North America and Europe. The market exhibits the presence of a large number of suppliers and manufacturers in China. The U.S., UK, Canada, and other developed countries have been major markets owing to the increasing efforts on research and development undertaken by several multinational corporations, research institutes, and manufacturers.

### Graphene Market Report Highlights

Graphene oxide accounted for a revenue of USD 44.5 million in 2021. The product is used in a wide range of applications, including transparent conductive films for various smartphones, supercapacitors, optoelectronic devices, flexible electronic devices, and medical devices. Its various superior characteristics including superior thermal and electrical conductivity, transparency, permeability, and strength play a major role in boosting its demand

The energy application segment is expected to grow at a CAGR of 35.4% over the forecast period. Electrochemical energy storage solutions are expected to drive the consumption of graphene in the energy sector over the forecast period. Furthermore, energy is a high-potential segment for the market, and continuous innovations in the development of the product are expected to help generate energy from renewable sources

North America is expected to grow at a CAGR of 42.8% over the forecast

period. The market is witnessing growth in the composites sector owing to the rising demand from aircraft manufacturing and automobile industries. Large-scale aircraft manufacturers including Boeing are focusing on lightweight composite materials such as graphene to improve the efficiency and performance of their aircraft. The product is becoming increasingly popular owing to its superior characteristics and manufacturers are thus expected to increase product penetration in various applications

The market is highly consolidated as well as concentrated. The major share of key players is concentrated in the developed region, hence regional partnership and distribution agreements are the major strategic initiatives adopted by several key players. Furthermore, the market exhibits the presence of a large number of suppliers and manufacturers in China

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