

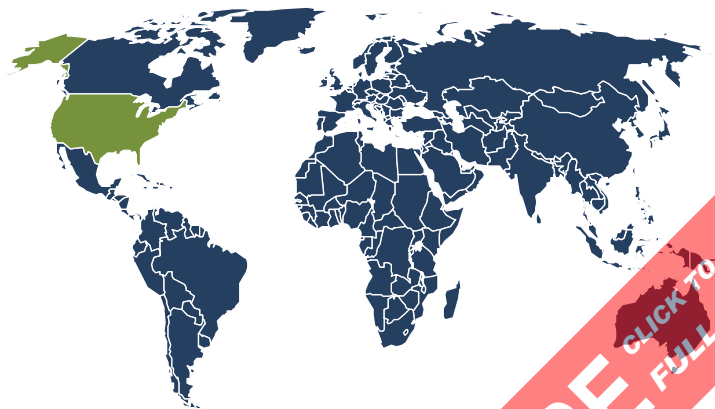


Freedonia Focus Reports
US Collection

Graphene:

United States

April 2016



Highlights

Market Environment

Historical Trends | Key Economic Indicators | Environmental and Regulatory Factors
Technology | Americas Overview

Segmentation and Forecasts

Products | Markets

Industry Structure

Industry Composition and Characteristics | Additional Companies Cited

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ABOUT THIS REPORT

Scope & Method

This report forecasts US graphene demand in US dollars at the manufacturers' level to 2020. Total demand is segmented by product in terms of:

- graphene nanoplatelets
- graphene film
- graphene oxide
- other products such as single-layer graphene materials, graphene nanoribbons, and graphene quantum dots.

Graphene products are defined as having a thickness of 10 or fewer graphene sheets; materials with more than 10 sheets are classified as graphite flakes and are excluded from the scope of this report.

Total demand is also segmented by market as follows:

- composites
- academic research
- energy
- electronics
- biomedical
- other markets such as water treatment, environmental cleanup systems, and lubricants.

To illustrate historical trends, total demand is provided in an annual series from 2008 to 2015; the various segments are reported at five-year intervals for 2010 and 2015.

This report quantifies trends in various measures of growth. Growth (or decline) expressed as an average annual growth rate (AAGR) is the least squares growth rate, which takes into account all available datapoints over a period. Growth calculated as a compound annual growth rate (CAGR) employs, by definition, only the first and last datapoints over a period. The CAGR is used to describe forecast growth, defined as the expected trend beginning in the base year and ending in the forecast year. Readers are encouraged to consider historical volatility when assessing particular annual values along the forecast trend, including in the forecast year.

Key macroeconomic indicators are also provided at five-year intervals with CAGRs for the years corresponding to other reported figures. Other various topics, including profiles of pertinent leading suppliers, are covered in this report. A full outline of report items by page is available in the [Table of Contents](#).

Sources

Graphene: United States (FF65067) is based on [World Graphene](#), a comprehensive industry study published by The Freedonia Group in April 2016. Reported findings represent the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources including:

- firms participating in the industry, and their suppliers and customers
- government/public agencies
- national, regional, and international non-governmental organizations
- trade associations and their publications
- the business and trade press
- indicator forecasts by The Freedonia Group
- the findings of other industry studies by The Freedonia Group.

Specific sources and additional resources are listed in the [Resources](#) section of this publication for reference and to facilitate further research.

Industry Codes

The topic of this report is related to the following industry codes:

NAICS/SCIAN 2007		SIC	
North American Industry Classification System		Standard Industry Codes	
212399	All Other Nonmetallic Mineral Mining	1499	Miscellaneous Nonmetallic Minerals, Except Fuels
327125	Nonclay Refractory Mfg		
327992	Ground or Treated Mineral and Earth Mfg	3295	Minerals and Earths, Ground or Otherwise Treated
335991	Carbon and Graphite Product Mfg	3297	Nonclay Refractories
		3624	Carbon and Graphite Products

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RESOURCES

The Freedonia Group

<i>3402 World Graphene</i> , April 2016	www.freedoniagroup.com
Related Industry Studies	see study contents
<i>3404 World Activated Carbon</i> , April 2016	see study contents
<i>3354 Drug Delivery Products</i> , December 2015	see study contents
<i>3350 World Battery Materials</i> , December 2015	see study contents
<i>3326 World Thermoplastic Elastomers</i> , November 2015	see study contents
<i>3338 Active & Intelligent Packaging</i> , October 2015	see study contents
<i>3317 Paint & Coatings</i> , August 2015	see study contents
<i>3309 World Batteries</i> , July 2015	see study contents
Related Focus Reports	
<i>Batteries: United States</i>	see report contents
<i>Drug Delivery Products: United States</i>	see report contents
<i>Energy: United States</i>	see report contents
<i>World Battery Materials</i>	see report contents
<i>World Graphene</i>	see report contents
<i>World Graphite</i>	see report contents
Freedonia Custom Research	see capabilities

Trade Publications

<i>Chemistry World</i>	www.rsc.org/chemistryworld/
<i>Composites Manufacturing</i>	http://compositesmanufacturingmagazine.com
<i>Graphene-Info</i>	www.graphene-info.com
<i>Materials Today</i>	www.materialstoday.com
<i>Nanoscale</i>	http://pubs.rsc.org/en/journals/journalissues/nr
<i>Nature Materials</i>	www.nature.com/nmat/
<i>Nature Nanotechnology</i>	www.nature.com/nnano/

Agencies & Associations

Centers for Disease Control and Prevention	www.cdc.gov
The Graphene Council	www.thegraphenecouncil.org
Graphene Stakeholders Association	www.graphenestakeholders.org
International Electrotechnical Commission	www.iec.ch
International Organization for Standardization	www.iso.org
National Graphene Institute	www.graphene.manchester.ac.uk
United States Census Bureau	www.census.gov

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