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Activated Carbon

US Industry Study with Forecasts for **2014 & 2019**

Study #2713 | January 2011 | \$5100 | 309 pages

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The main driver of rapid growth will be new demand in mercury and other hazardous air pollutant (HAP) control technology for industrial air purification applications.

US demand to grow 15.8% annually through 2014

US demand for activated carbon, including both virgin and reactivated products sold by activated carbon suppliers, is forecast to grow 15.8 percent per annum to 1.18 billion pounds in 2014. The main driver of this exceptional growth will be new demand in mercury control technology for industrial air purification applications. Over the next several years, a variety of US industrial facilities will be required to meet stringent new emissions standards covering mercury and other hazardous air pollutants (HAPs) administered by the US Environmental Protection Agency (EPA).

PAC types to benefit from new air emissions controls

An activated carbon injection (ACI) system used for mercury control in a large industrial facility can consume up to two million pounds of activated carbon annually. As a result, the enactment of even a portion of the emissions standards currently in draft form will represent a tremendous growth opportunity for US suppliers. Through 2014, demand for activated carbon in mercury control applications alone is forecast to grow more than fivefold to 520 million pounds. As powdered activated carbon (PAC) is overwhelmingly the product type used in mercury control technology, the PAC segment will expand to account for two-thirds of US product demand in 2014 in volume terms.

US Activated Carbon Demand by Application, 2014 (1.18 billion pounds)



| | |
|-----------------------------|-----|
| Water Treatment | 31% |
| Other Liquid Phase | 12% |
| Industrial Air Purification | 50% |
| Other Gas Phase | 7% |

GAC types to be driven by water treatment and air purification applications

Granular activated carbon (GAC) types will see strong gains through 2014 as well, due primarily to expanded use of activated carbon filter systems in municipal drinking water treatment. Growth in this application will stem from new federal drinking water treatment standards being phased in through 2015, which target the elimination of microbial pathogens and disinfection byproducts (DBPs) from municipal systems. GAC will be the main product type chosen in this application. Due to the new water quality standards, demand for activated carbon in drinking water treatment

(including both municipal and residential systems) is forecast to increase at double-digit annual rates through 2014.

In addition to the rapid gains underway in the industrial air purification market, demand for activated carbon in gas phase applications will improve in the motor vehicle segment. Through 2014, product demand for emissions canisters and other motor vehicle parts is expected to grow over 15 percent per annum as US motor vehicle production rebounds strongly. Activated carbon will see modest growth in liquid phase applications other than drinking water treatment, such as the preparation of pharmaceuticals.

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Sample Text, Table & Chart

REGIONS

Northeast

The Northeast region consists of two subregions: New England and the Middle Atlantic. Historically, the region's economy was based on manufacturing. However, through the latter half of the 20th century and into the early years of the new millennium, manufacturing's importance decreased as many producers relocated to areas with lower production costs. Industries that have sprung up in manufacturing's place include high technology and financial services. Despite the shifting focus on these newer industries, the region's economy is the slowest growing in the nation, increasing only 2.5 percent in real terms through 2014. Moreover, population growth in the region will remain well below the national average.

The Northeast is the smallest regional market for AC, with roughly 15 percent of total demand in 2009. The region's share of the national market is expected to decline through 2014 due to limited opportunities in major AC growth areas such as drinking water treatment. Nonetheless, the Northeast is expected to increase demand to 17.9 million pounds in 2014. Over the period 2009-2014, demand from the Middle Atlantic subregion is expected to increase by 15 percent.

The Northeast ranks second lowest among all regions in its number of major coal-fired power plants (those producing over 100 MW of power annually) and has the lowest regional concentration of clinker cement manufacturing facilities. This will limit growth in AC consumption for mercury control technology, which is forecast to expand rapidly in the electrical utility and cement industries through 2014. In addition, many municipalities in the Northeast, particularly in New England, draw their drinking water supply from groundwater sources such as buried valley and artesian aquifers, which will limit growth in AC used for municipal water treatment.

214

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TABLE IV-1

ACTIVATED CARBON DEMAND BY PRODUCT & APPLICATION
(million dollars)

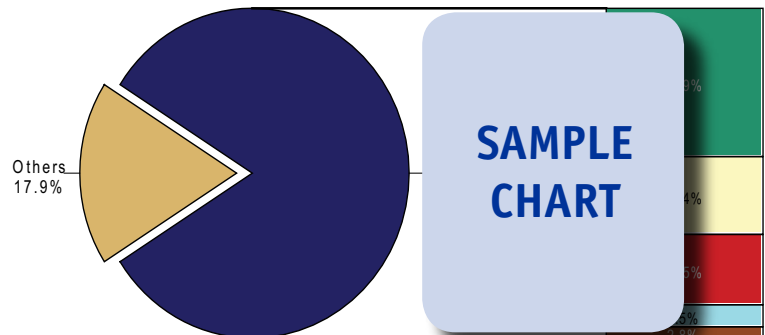
| Item | 1999 | 2004 | 2009 | 2014 | 2019 |
|-------------------------------------|------|------|------|------|------|
| Gross Domestic Product (bil 2005\$) | 10 | 12 | 14 | 16 | 18 |
| lbs activated carbon/mil \$ GDP | 8 | 7 | 6 | 5 | 4 |
| Activated Carbon Demand (mil lbs) | 0 | 1 | 2 | 3 | 4 |
| \$/lb | 4 | 5 | 6 | 7 | 8 |
| Activated Carbon Demand | 0 | 1 | 2 | 3 | 4 |
| By Product: | | | | | |
| Granular | 3 | 4 | 5 | 6 | 7 |
| Powdered | 2 | 3 | 4 | 5 | 6 |
| Other | 5 | 6 | 7 | 8 | 9 |
| By Application: | | | | | |
| Liquid Phase | 0 | 1 | 2 | 3 | 4 |
| Gas Phase | 0 | 1 | 2 | 3 | 4 |

SAMPLE
TABLE

SAMPLE
TEXT

CHART VIII-1

US ACTIVATED CARBON MARKET SHARE BY COMPANY
(\$542 million, 2009)



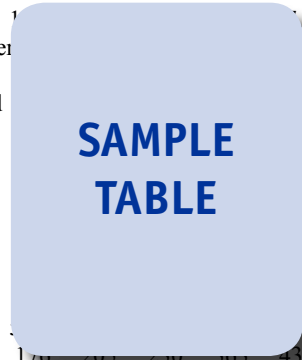
SAMPLE
CHART

Sample Profile, Table & Forecast

TABLE V-4

ACTIVATED CARBON DEMAND IN DRINKING WATER TREATMENT BY END USE & PRODUCT (million pounds)

| Item | 1999 | 2004 | 2009 | 2014 | 2019 |
|---|------|------|------|------|------|
| Municipal Water Withdrawal (tril gal) lbs activated carbon/mil gallons water | 118 | 128 | 138 | 148 | 158 |
| Drinking Water Treatment AC Demand | 5 | 5 | 5 | 5 | 5 |
| By End Use: | | | | | |
| Municipal | 0 | 0 | 0 | 0 | 0 |
| Residential | 5 | 5 | 5 | 5 | 5 |
| By Product: | | | | | |
| Granular | 0 | 0 | 0 | 0 | 0 |
| Powdered | 5 | 5 | 5 | 5 | 5 |
| % drinking water Water Treatment Applications | 170 | 205 | 250 | 305 | 435 |



COMPANY PROFILES

Carbon Resources LLC

2535 Jason Court
 Oceanside, CA 92056
 760-630-5724
<http://www.carbonresources.com>

Annual Sales:
 Employment:

Key Products/
 activated carbon
 related services



**SAMPLE
PROFILE**

Carbon Resources is a leading producer of activated carbon products and a provider of related services. The Company is privately held.

The Company is involved in the US activated carbon industry via the supply of activated carbon based on such raw materials as coal, petroleum pitch, wood, rayon, bamboo and coconut shell; and activated carbon-based adsorption systems. These products can be used for a wide range of applications, including water and wastewater treatment; air and gas treatment; food and beverage decolorization, deodorization and purification; precious metal recovery; chemical purification; industrial oil purification; solvent recovery; cigarette filters; and pharmaceutical processes.

Activated carbon from Carbon Resources is marketed under the SPARTAN SERIES and SABRE SERIES brand names. SPARTAN SERIES coconut shell-based activated carbons from the Company are non-chemically impregnated and surface-modified for increased capabilities for breaking down hydrogen sulfide, chloramines and other noxious compounds. Carbon Resources' SABRE SERIES line of activated

“Demand for activated carbon used in drinking water treatment applications is forecast to increase 13.1 percent per annum to 248 million pounds in 2014, with the majority of this demand coming from the municipal drinking water segment. Growth in municipal drinking water applications for activated carbon will far exceed increases in municipal water withdrawal due to the adoption of the EPA’s more stringent standards for treating public drinking water supplies for disinfection byproducts.”
 --Section V, pg. 126-7

OTHER STUDIES

World Fertilizers

This study analyzes the world fertilizer industry. It presents historical demand data for the years 1999, 2004 and 2009, and forecasts for 2014 and 2019 by fertilizer type (e.g., nitrogen, phosphate, potassium), end use market (agriculture, consumer, commercial), world regional market and for over 30 major national markets. The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry participants.

#2726 March 2011..... \$5900

Consumer Water Purification & Air Cleaning Systems

This study analyzes the US consumer water purification and air cleaning system industry. It presents historical demand data (1999, 2004, 2009) and forecasts for 2014 and 2019 by technology (e.g., conventional filtration, reverse osmosis, distillation, ultraviolet, ozone, electrostatic, ionization), water purifier type (point-of-entry, point-of-use), air cleaner type (whole-house, portable) and US region. The study also considers market environment factors, evaluates company market share and profiles industry players.

#2701 February 2011..... \$5100

World Activated Carbon

World demand for virgin activated carbon will rise 9.9% yearly through 2014. The US is the largest national market and will also pace global growth based on anticipated new federal regulations mandating mercury removal at coal-fired power plants.

This study analyzes the 1.1 million metric ton global activated carbon industry, with forecasts for 2014 and 2019 by type, application, market, world region and for 17 countries. It also evaluates company market share and profiles industry participants.

#2626 June 2010 \$5900

World Carbon Black

World demand for carbon black is forecast to rise 4.3% annually through 2013. Growth in the non-tire rubber product market will outpace growth in the dominant motor vehicle tire sector, while the smaller special blacks market will rise the fastest. The Asia/Pacific region will post the strongest gains. This study analyzes the 9.4 million metric ton world carbon black industry, with forecasts for 2013 and 2018 by market, world region and for 25 countries. It also evaluates company market share and profiles industry players.

#2596 February 2010..... \$5700

World Filters

Global demand for filters is forecast to expand 5.1% annually through 2013. Market advances in the developing areas will considerably outpace increases in the US, Western Europe and Japan. Sales of air purification filters will be the fastest growing segment while internal combustion engine and related filters remain the largest. This study analyzes the \$45.5 billion world filter industry, with forecasts for 2013 and 2018 by product, market, world region and for 26 countries. It also evaluates market share and profiles industry players.

#2568 November 2009..... \$6100

About The Freedonia Group

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