



OTC/BB: CHGI

September 8, 2009

**Rating:** Speculative Buy  
(Initial)

**Recent Price:** \$1.30  
(9/4/09)

**Price Target:** \$3.40  
(Initial)

## China Carbon Graphite Group, Inc.

Specialty Materials

### MARKET DATA

52-Week High/Low	\$1.98 - \$0.11
Ave. Daily Volume (6-mos.)	33 K
Shares Outstanding	14.6 M
Inside Ownership	62%
Institutional Ownership	<1%
Float	5.6 M
Short Interest (% of float)	<1%

*China Carbon Graphite Group is a fast growing producer of carbon graphite materials based in China. The Company is currently undertaking a major project to expand and upgrade its production facilities located in Inner Mongolia. Once completed the expansion will double production capacity and enable the Company to target new, fast growing markets with higher margin products.*

### FINANCIAL DATA

Market Capitalization	\$19.0 M
- Cash & Equivalents	\$ 6.3 M
+ Preferred Stock	\$ 0.3 M
+ Long-term Debt	\$ 4.2 M
Enterprise Value	\$17.2 M
Book Value	\$36.7 M
Working Capital	\$10.3 M
Dividend Yield	Nil

*Balance sheet figures pro forma as of 6/30/09*

	SALES	INC*	CFO	EPS*
2008A	\$27.3	\$3.1	\$5.4	\$0.21
1Q09A	\$ 2.9	\$0.5	\$0.8	\$0.03
2Q09A	\$ 3.7	\$0.5	\$5.7	\$0.04
3Q09E	\$ 6.0	\$0.8		\$0.06
4Q09E	\$ 7.2	\$1.1		\$0.07
2009E	\$19.8	\$2.9	\$8.7	\$0.20
2010E	\$36.0	\$5.0	\$7.2	\$0.34

*Dollars in millions, except EPS; Fiscal year ends Dec.  
\*Income and earnings available to shareholders*

### VALUATION

Price/Sales	1.0 X
Price/CFO	1.8 X
Price/Trailing 12-mo. Earnings	7.2 X
Price/Book Value	0.5 X
Consensus EPS Estimate 2009	NA
Forward PE	NA
Consensus EPS Estimate 2010	NA
Forward PE	NA

### HIGHLIGHTS

- **Growing Market Opportunity.** Both domestic and world graphite demand trends bode well for China Carbon's long-term sales and earnings growth. Market research had estimated that the global demand for graphite was expected to increase by as much as 50% in the last half of the current decade.
- **Capacity Expansion.** China Carbon is in the midst of a project to double production capacity from the current 15,000 metric tons per year to 30,000. The expansion and upgrade will facilitate penetration of new markets such as the solar semiconductors.
- **New Products.** China Carbon is the first China-based producer to introduce a 3500 mm long fine grain graphite product. The new product is expected to compete directly with producers from Japan and Germany that have heretofore been the primary suppliers of such graphite to customers in China.
- **Rating and Target Price.** We initiated coverage of CHGI with a Speculative Buy rating and a price target of \$3.40 over the next twelve to eighteen months. Our price target is based on the forward earnings multiple of 10 times our 2010 EPS estimate of \$0.34.
- **Outlook.** We believe successful completion of a planned capacity expansion is a "game changer" for the Company and could lead to a significant increase in revenue and earnings in the next year. Year-over-year comparisons in 2H09 and in year 2010, should be more interesting as the Company ramps up production.

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## INVESTMENT THESIS

China Carbon Graphite Group is a producer of synthetic carbon graphite material for a variety of industrial applications. Converted to a private enterprise in 2001, the Company is one of the largest synthetic graphite manufacturers in China. In 2004, the Company was awarded a China patent for advanced graphite material and production process and recently became the first China-based producer of certain long length, high purity graphite products. In our view, this experience along with strong relationships with engineering and technology universities in China, put the Company in a position to remain at the forefront of graphite materials development.

Both domestic and world graphite demand trends bode well for the Company's long-term sales and earnings growth. Before the current economic downturn, market research had estimated that the global demand for graphite was expected to increase by as much as 50% in the last half of the current decade. Industry experts had estimated the market for industrial uses could reach \$900 million by 2010, and new applications are rapidly developing in the electronics, semiconductor and nuclear industries. While near-term growth rates may have slowed, we expect the pace to resume along with the economic recovery.

China Carbon reported \$27.3 million in sales in 2008, compared to \$24.4 million in the previous year. Production in the second half 2008 and first half 2009 was impacted by the cessation of commercial activity during the Summer Olympics in Beijing. Sales in the twelve months ending June 2009 were \$20.2 million. More normal order flow has resumed and we expect the pace of sales to pick up in the current year even against continued constraints in the global economic environment that has reduced demand for industrial materials.

Historically profitable, the Company reported \$3.1 million in net income or \$0.21 per share in 2008, representing a net profit margin of 11.4%. Operations generated \$5.4 million in cash during the year, making it possible for the Company to finance capital expenditures and pay down debt. The cash conversion rate reached 19.8% in 2008. While sales in the most recent twelve-month period have declined sequentially, profitability has remained strong. The Company earned a consistent net profit of \$2.3 million or 11.4% on \$20.2 million in sales in the twelve months ending June 2009.

In our view, robust cash generation and a strong balance sheet with low leverage puts China Carbon in a good position to expand aggressively. The Company is currently investing in new facilities and production equipment that are expected to double production capacity from 15,000 metric tons to 30,000 metric tons annually. Construction is on schedule to be completed in early 2010. The expansion is expected to enable production of high purity graphite materials used in the semiconductor, aerospace and chemical industries among others. China Carbon is planning a subsequent upgrade to produce nuclear grade graphite that will be required in a number of China's planned nuclear power generators. China's 11th and 12th Economic Plans call for a six-fold increase in nuclear power production by 2020, including as many as nineteen graphite-moderated-type reactors.

### ***Investment Highlights***

- Multiple, large addressable markets for the Company's carbon graphite products for both domestic and export customers offer substantial revenue growth opportunity.
- Positive demand trends and increasing number of applications for graphite use through technology innovation such as battery and nuclear power applications help ensure continued market growth.
- Plans to double production capacity to 30,000 metric tons per year portend potential to capture market share and expand profit margins.
- Cash flow generation continued strong in the most recent period despite a drop in profit margins.
- Balance sheet metrics improved after an earlier debt restructure and debt reduction.
- Realignment of responsibilities among top management may create greater efficiency in leadership as the Company's founder assumes an operational role
- Recent additions to management team expands available expertise in U.S. GAAP accounting and capital markets.
- Developing partnership with leading Chinese engineering university helps ensure availability of qualified personnel as well as access to leading edge technology in materials science.

## VALUATION AND OUTLOOK

We initiated coverage of China Carbon Graphite Group with a Speculative Buy rating and a price target of \$3.40 over the next twelve to eighteen months. In our view, investors should consider CHGI a speculative position which could be more appropriate for those with long-term investment horizons and tolerance for above average price volatility.

China Carbon Graphite completed a reverse merger into U.S. public shell corporation in December 2007. Accordingly, the stock has a limited trading history as a public company. We believe the Company remains relatively unknown in the U.S. equity markets, leaving the stock undervalued relative to its peers. Our price target is based on the forward earnings multiple of 10 times our 2010 EPS estimate of \$0.34. We believe this multiple is appropriate given prevailing valuation metrics in the world graphite materials industry as well as China-based materials producers. (See Tables VI and VII on Pages 20 and 21 for a comparison of CHGI against a peer group of graphite materials and products suppliers.)

Like many Chinese companies, recent results were impacted by the cessation of production during the 2008 Summer Olympics held in Beijing. However, year-over-year comparisons in the second half of 2009 in year 2010, should be more interesting as the Company returns to normal production cycles. We believe successful completion of a planned capacity expansion is a “game changer” for the Company and could lead to a significant increase in revenue and earnings in the next year. We also expect progress on product development for nuclear power applications to spark interest and drive valuation.

## RISKS

- Internal cash flow and cash reserves are not sufficient to support current capital spending programs. The Company must rely on bank and other loan programs, increasing leverage and interest burden.
- The Company is closely held by a single insider whose ownership totals 62% of the outstanding shares.
- The Board of Directors is composed of three individuals only one of whom qualifies as an independent director. The board has no audit or compensation committees.
- The Company has reported outstanding internal control issues that may require the help of outside audit consultants, the addition of new personnel and the completion of training for existing personnel.
- The Company’s operations are located outside the U.S. and business is conducted primarily in the Chinese language, adding additional complexity to due diligence requirements for U.S. investors
- Changes in exchange rates between China’s renminbi (functional currency) and the U.S. dollar (reporting currency) may negatively impact reported earnings and balance sheet values
- CHGI shares have a limited trading history, are subject to price volatility, and historically have traded at wide spreads between bid and ask prices.
- Our price target was based on our estimates of future earnings, which are highly dependent upon certain assumptions relating to production expansion and success in strategic sales and marketing plans that may or may not unfold in the time frames represented in our earnings model, if at all.

## BUSINESS DESCRIPTION

China Carbon Graphite Group claims a leading position among as many as four hundred producers of carbon graphite materials and products in China for both domestic use and export. The Company’s operations are located in Xinghe County in Inner Mongolia of the People’s Republic of China. The corporate website is located at the address [www.chinacarboninc.com](http://www.chinacarboninc.com), where the Company provides illustrations of its production process and finished goods.



### Strategic Growth Plan

The Company has developed a two-part plan for organic growth. First, the Company is in the midst of a project to double production capacity from the current 15,000 metric tons per year to 30,000. The expansion is partially completed and requires the additional investment of an estimated \$8.0 million for new raw material processing and molding equipment and \$2.0 million for incremental working capital. Depending upon the availability of financing, we expect the Company to complete the capacity expansion by the second half of 2009.

The expansion and upgrade will facilitate penetration of new markets such as the solar semiconductors. High-purity graphite materials, which contain less ash and are polished to finer crystals than lower grades, are widely used in heaters and crucibles for producing single crystal silicon boats and for certain steps in growing silicon crystals in the semiconductor manufacturing processes.

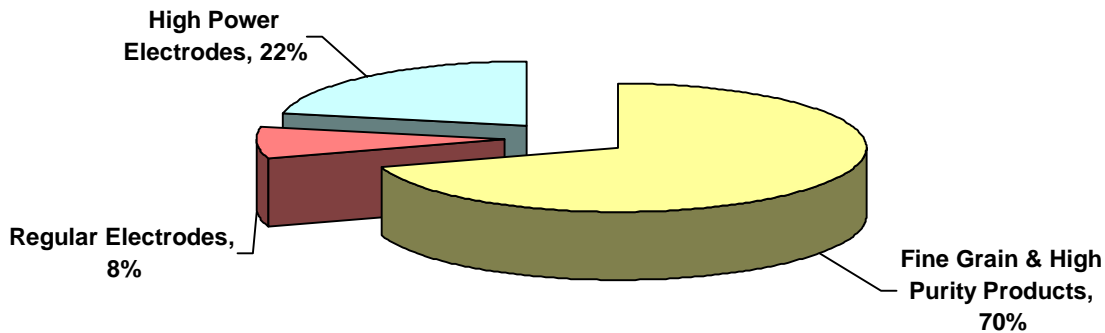
The Company is also targeting the large, high-margin opportunity presented by the nuclear power industry in China. China's 11th and 12th Economic Plans call for a six-fold increase in nuclear power production by 2020, including as many as nineteen graphite-moderated-type reactors. Early research suggests a single 250 MW reactor of this type could require as many as 10,000 metric tons of nuclear grade graphite for initial construction and another 1,000 metric tons each year in operation.

We expect the Company to move forward in the next two to three years with the installation of required molding, baking and graphitization equipment for production of high-purity isotropic, nuclear-grade graphite. We believe China Carbon could be viewed favorably in future competition, since it is the only graphite producer that is not a government enterprise to be designated as a National Hi-Tech Enterprise by China's Ministry of Science & Technology.

### Corporate History

The operational arm of China Carbon Graphite has its origins as a state-owned enterprise, which was taken private in late 2001 in what might be termed a leveraged buy-out by management. Xinghe Xingyong Carbon Co., Ltd. has since been operated as a privately-held China company. A reverse merger of related corporate entities into a U.S. public shell company was completed in December 2007. The next year was a formative period for the Company. The corporate name was formally changed to China Carbon Graphite in January 2008. Earlier Xinghe Xingyong had been named as a National Hi-Tech Enterprise and was subsequently granted tax exempt status by the Xing He District Local Tax Authority. Additional executive and finance personnel were recruited and the founder and other senior managers returned to operational roles. In October 2008, the Company launched a new corporate web site aimed at both China and U.S. audiences.

**Chart I: China Carbon Graphite Group - Product Mix**



Source: Company Reports and Crystal Equity Research Estimates

## PRODUCTS AND MARKETS

Graphite is a soft, steel-gray to black, hexagonally crystallized allotrope of carbon with a metallic luster and a greasy feel. Graphite's varied characteristics make it a highly desirable material for industrial components and processes. Such characteristics include the following:

- High thermal resistance
- Low friction and self-lubrication
- High electrical conductivity
- High thermal conductivity
- Low "wettability" by liquid metals
- High resistance to neutron radiation

The Company's product line may initially appear to be an unvaried series of dark gray forms. However, key characteristics divide the products into three main groups.

- *Graphite Electrodes* are an excellent conducting material and are used widely in China in electric arc furnaces for the manufacture of steel among other industrial uses.
- *Fine Grain Graphite* products are used in components in the automotive (piston rings, sealing rings) and aerospace industries (rocket nozzles).
- *High Purity Graphite* is used in the semiconductor, chemical and nuclear industries.



*Electrodes - Steel*



*Piston Rings - Auto*



*Rocket Nozzles - Aerospace*



*Graphite Mold - Manufacturing*



*Circuit Board - Semiconductor*



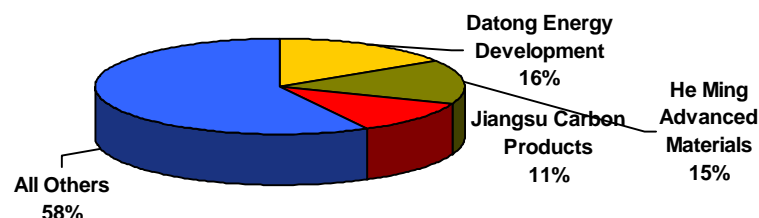
*Neutron Absorbing Tubes - Nuclear*

*Graphite Electrodes* represent 30% of China Carbon's total sales, 22% of which is destined for high-power electrodes and 8% for regular electrodes. The majority of sales, 70%, are comprised of *Fine Grain* and *High Purity Graphite*, which are used in the chemical, aerospace, and semiconductor industries, among others. (A selection of end uses is illustrated above.)

### Customers

A ten-person sales team markets the Company's products through a network of distributors and wholesalers, some of which export to customers outside China. Customers are primarily in the industrial and energy sectors, including steel production, automotive manufacturing, semiconductor production and electronic discharge machining (EDM). In 2008, China Carbon had three significant customers, which together accounted for 42% of total sales. Although the names were not disclosed, in the first quarter 2009, three customers accounted for 55% of total sales. There were no significant customers in the June quarter, in part due to the fall off in graphite electrode business during that quarter. At the end of June 2009, 54.6% of accounts receivable could be attributed to four customers. The Company did not disclose whether these customers are the same as those representing significant sales.

**Chart II: Customer Mix - 2008**



Source: Company Reports and Crystal Equity Research Estimates

### **Production Process and Raw Materials Supplies**

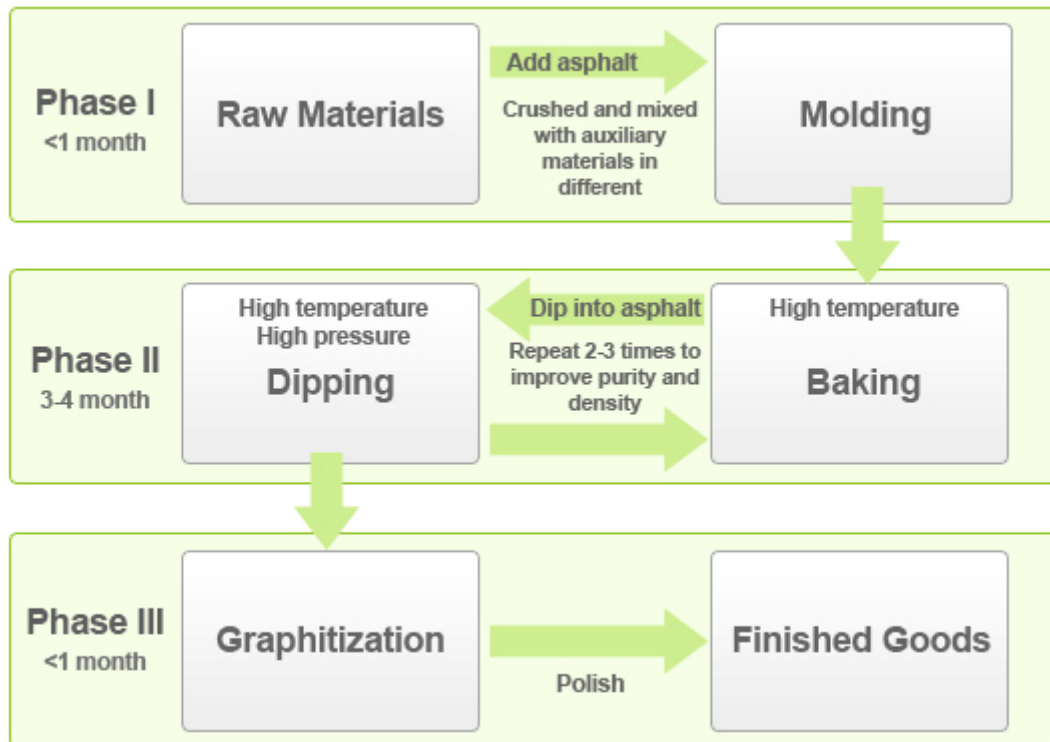
The primary raw materials for electrodes are engineered by-products and residues of the petroleum and coal industries. Higher grades of graphite products are produced from crushed graphite or metallurgical coke, depending on the grade produced. These raw materials are used because of their high carbon content.

China Carbon uses carbon-rich coal asphalt and various types of coke to manufacture high strength and fine purity graphite. The Company sources raw materials from a variety of suppliers near its Inner Mongolia operations. Coal and coke supplies are plentiful in China and the Company does not rely on long-term supply arrangements.

China Carbon's profit margins have been aided by access to low-cost electricity for the energy-hungry baking step of the process. Access to economical energy sources will be particularly vital for the Company as it increases its production of higher grade graphite product require longer baking times and higher temperatures.

The production process for all grades of graphite involves three basic steps which can require as long as six months for completion. The more refined or pure the graphite, the longer is the production time. Raw materials are crushed, mixed with asphalt and placed into molds. The second, lengthier phase involves high pressure and high temperature baking of the carbon and asphalt mix. In the final third and final step called "graphitization" the carbon is crystalized at high temperatures. After the molding, baking, dipping, rebaking and graphitization steps, the bricks or billets are 1) dressed and sold as raw stock or 2) machined into custom parts against proprietary specifications supplied by customers or the end user.

#### **Illustration I: Production Process**



Source: [WWW.CHINACARBONINC.COM](http://WWW.CHINACARBONINC.COM)

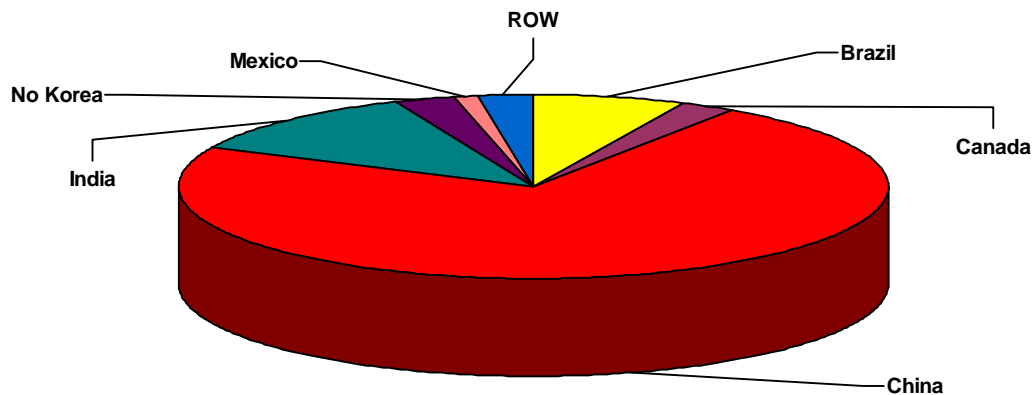
## WORLD GRAPHITE MARKET

Graphite, like the diamond, is a form of carbon. It may be considered the highest grade of coal. There are three principal types of naturally occurring graphite: 1) flake graphite, 2) amorphous or fine-particle graphite, and 3) high crystalline graphite. World's reserve base exceeds 800 million tons.

Synthetic graphite can be produced from coal asphalt, petroleum coke and pitch. It tends to be of higher purity though not as crystalline as natural graphite. Synthetic graphite can be obtained through a process called graphitization heat treatment of non-graphitic carbon or by chemical vapor deposition from hydrocarbons at high temperatures.

China produces the majority of the world's natural graphite from deposits clustered in the Shandong and Heilongjiang producing regions. The country is also a leader in graphite manufacturing. Accordingly, China is a critical source of graphite supply for developed industrial economies. For example, China provides approximately 45% of U.S. graphite supplies mostly in the form of flake graphite.

**Chart III: World Graphite Production**



Source: U.S. Geological Survey, January 2009

### **Demand Drivers**

High grade or "isotropic" carbon graphite was developed in Japan by Toyo Tanso in the 1970s paving the way to a wider addressable market for carbon graphite products. Before the current economic downturn, market research had estimated that the global demand for graphite was expected to increase by as much as 50% in the last half of the current decade. Industry experts had estimated the market for industrial uses could reach \$900 million by 2010. While near-term growth rates may have slowed, we expect the pace of growth to resume along with an economic recovery.

### **Conventional Graphite Markets**

Although not the primary target market for China Carbon, one of the most common uses of graphite is for electrodes that are consumed primarily in Electric Arc Furnaces (EAF) used for steel production and other smelting processes such as production of titanium dioxide. Electrodes act as conductors of electricity in the furnace, generating sufficient heat to melt scrap metal, iron ore or other raw materials used to produce steel or other metals. The electrodes are fully consumed in the course of that production and must be replenished.

Electric arc furnace steel production for the last five years has grown at an estimated average annual growth rate of about 5%, even considering the decline seen in 2008. Although EAF steel production is has declined in 2009, long-term growth is expected at an average annual rate of between 2% and 3%. EAF steel production was approximately 405 million metric tons in 2008, representing approximately a third of the world's steel production. Although it is estimated that EAF smelter specific consumption declined from about 2.5 kilograms of graphite electrodes per metric ton of steel produced in 2000 to about 1.90 kilograms per metric ton in 2008, industry analysts indicate approximately 45 million metric tons of new EAF steel production capacity is planned during the 2009 through 2011 time period.

There is a growing market for graphite electrodes in Electronic Discharge Machining (EDM) use to cut and shape hard metals, conductive metals or those that would be very difficult to machine with traditional techniques. The EDM process is most widely used by the mould-making tool and die industries, but is becoming a common method of making prototype and production parts, especially in the aerospace, automobile and electronics industries in which production quantities are relatively low. In "sinker-type" EDM, a graphite electrode is machined into the desired shape and fed into the final product. As in steel making the EDM process fully consumes the graphite material.

### ***New Market Opportunities***

Long-term demand trends for higher grades of graphite appear positive. Since carbon graphite is used widely throughout several other industries, including the chemical, pharmaceutical, aerospace and semiconductor industries, among others, it is possible to consider economic activity in general as a gauge of demand for carbon graphite materials. For example, the demand for advanced graphite-based structural material is closely correlated to the demand for commercial aircraft, which is in turn driven by passenger traffic. The aggregate demand by space and defense customers is primarily a function of procurement of military aircraft that utilize advanced composites.

Likewise a surge in new nuclear power plant construction, many of which are located in China, is expected to dramatically increase demand for high purity, nuclear grade graphite. Early research suggests a single 250 MW reactor of the pebble-bed, graphite-moderated type reactors included in China's nuclear power plans could require as many as 10,000 metric tons of nuclear grade graphite for initial construction and another 1,000 metric tons each year in operation. At this time most nuclear-grade graphite must be imported to China from foreign producers and sells at approximately US\$17,500 per metric ton. This suggests a significant expansion in addressable market size for China Carbon, if China's planned nuclear power program advances to construction and operational phases.

Technology advances in the production of higher purity graphite powders are likely to lead to development of new applications for graphite. Such innovations may make it possible to use improved graphite in carbon-graphite composites, electronics, foils, friction materials and special lubricant applications. Large-scale fuel-cell applications are under development that could consume as much graphite as all other uses combined. Yet another example is a new grade of shape-controlled micro graphite has been developed that could be used as anode material in large lithium-ion batteries for electric vehicles. Such advances also bode well for pricing and margins.

## **COMPETITION**

Competition in the industrial materials segment is intense and is based primarily on product differentiation and quality, delivery reliability, price, and customer service, depending on the market segment or specific product application. We believe that there are barriers to entry into the carbon graphite industry, including the need for extensive product and process know-how and other intellectual property. There would also be a need for significant initial capital investment to enter the market as a "green-field" operation. The production of graphite also requires high quality raw material sources and a developed energy supply infrastructure. While the threat of new entrants appears minimal, existing producers have been able to expand geographically. We believe China's dominant position in the world and its own domestic graphite markets is being tested by some U.S. and Japanese producers.

There are five multinational carbon graphite producers, GrafTech International (GTI: NYSE), SGL Carbon, AG (SGL: Frankfurt), Tokai Carbon Co., Ltd. (5301: Tokyo), Showa Denko Carbon (4004: Tokyo) and Graphite India Ltd. (509488: Bombay). All are predominantly producers of graphite electrodes used in the steel industry production capacity and customers in several countries. Other significant regional graphite electrode producers include HEG, Inc. (509631: Bombay), SEC Carbon Ltd. (5304: Tokyo), Nippon Carbon Company (5302: Tokyo), and ENERGOPROM (Private, Russia), Fangda Carbon Tech Co., Ltd. (600516: Shanghai) and Sinosteel Jilin Carbon Company (000928: Shenzhen).

There are several major high grade or specialty graphite producers that compete on a global basis, including SGL Carbon, Tokai Carbon, Graftech International, Entegris, Inc. (ENTG: Nasdaq), Toyo Tanso Co., Ltd. (5310: Tokyo) and Carbone Lorraine SA (CBLP: Paris). There are also several smaller regional competitors, such as Superior Graphite (private, USA), Carbide Industries, Inc. (private, USA) Covalent (private, Japan), and Timcal Group (private, Switzerland).

### ***China Graphite Market***

The China graphite industry is highly fragmented and populated by numerous small producers with highly localized production, sales and marketing strategies. China Carbon Graphite is attempting to differentiate itself from competition by upgrading its technological and processing capabilities to produce higher grade graphite products. These products, which fall into the high purity graphite category, are aimed at diverse target markets including solar semiconductors, advanced batteries, composite materials, and nuclear reactors, among others. The Company holds one patent in China for high-density, high strength and wear-resistant graphite material. The patent also protects the production of that type material.

In the high purity segment China has a mix of competition from both domestic and foreign producers. For example, we believe such companies such as Entegris (formerly Poco Graphite, USA), SGL Carbon (Germany), Tokai Carbon (Japan) and Toyo Tanso (Japan) are particularly significant competitors in the solar semiconductor market.

China Carbon is the first China-based producer to introduce a 3500 mm long fine grain graphite product. The new product is expected to compete directly with producers from Japan and Germany that have heretofore been the primary suppliers of such graphite to customers in China. The new longer length rod is targeted at manufacturers requiring large-scale molds and can be used in the semiconductor, precious metal smelting and diamond sintering applications.

China Carbon's closest competition in the nascent nuclear industry is likely from other China producers such as Fangda Carbon Tech and Sinosteel Jilin Carbon. Fangda and Jilin have both offered samples of high purity graphite for certification as nuclear grade. The Central Government sourced nuclear grade graphite for testing purposes from Fangda in 2008, but also purchased quantities from Toyo Tanso in Japan. The sample quantities were used in a test of a prototype pebble bed nuclear reactor planned for China's nuclear energy program. Thus Toyo Tanso also can be considered a potential competitor in the nuclear market segment.

### **LEADERSHIP AND OWNERSHIP**

Donghai Yu was appointed Chief Executive Officer and Director in December 2008. He had been the Company's chief financial officer since December 2007, when the Company completed a reverse merger into a U.S. public shell-company. Yu has a master of business administration from Oklahoma City University.

Following the appointment of Yu as CEO, the Company's founder, Dengyong Jin stepped into an operating role as general manager of the Company's operating arm, Xinghe Xingyong. Jin has over twenty years experience in carbon graphite production and is a nationally recognized business entrepreneur. He has a degree in economics from the Inner Mongolia Television University of China. Jin owns 62% of China Carbon Graphite Group common stock.

**Table I: Insider and Significant Ownership**

<u>Name</u>	<u>Position</u>	<u>Years</u>	<u>Stock</u>	<u>Options</u>	<u>Experience</u>
Hongbo Liu	Director, I	2	-0-	-0-	Engineering
Donghai Yu	CEO, Director	2	-0-	-0-	Finance
Ting Chen	CFO, Director	1	-0-	-0-	Accounting
Dengyong Jin	Founder, Gen. Mngr	8	9,338,172	-0-	Executive Management
Lizhong Gao	Sr. Mngr., Xinghe Xingyong	8	9,338,172	-0-	Operations
Cheng Zhang	Sr. Mngr., Xinghe Xingyong	8	-0-	-0-	Operations
Officers and Directors as a Group			9,338,172	-0-	
5% Holders as a Group			-0-	-0-	

*I Independent Director*

*\*Shares totaling 9,338,172 held in trust for Dengyong Jin and family members. Lizhong Gao, who is Mr. Jin's brother-in-law, has sole voting authority over shares held in the trust.*

*Source: Company Reports and Crystal Equity Research Estimates.*

Ms. Ting Chen was appointed Chief Financial Officer and Director in December 2008 to replace Yu. She was previously with PriceWaterhouseCooper's Alternative Investment Funds Group. She has a bachelor degree in accounting and economics from City University of New York and is a certified public accountant in the U.S.

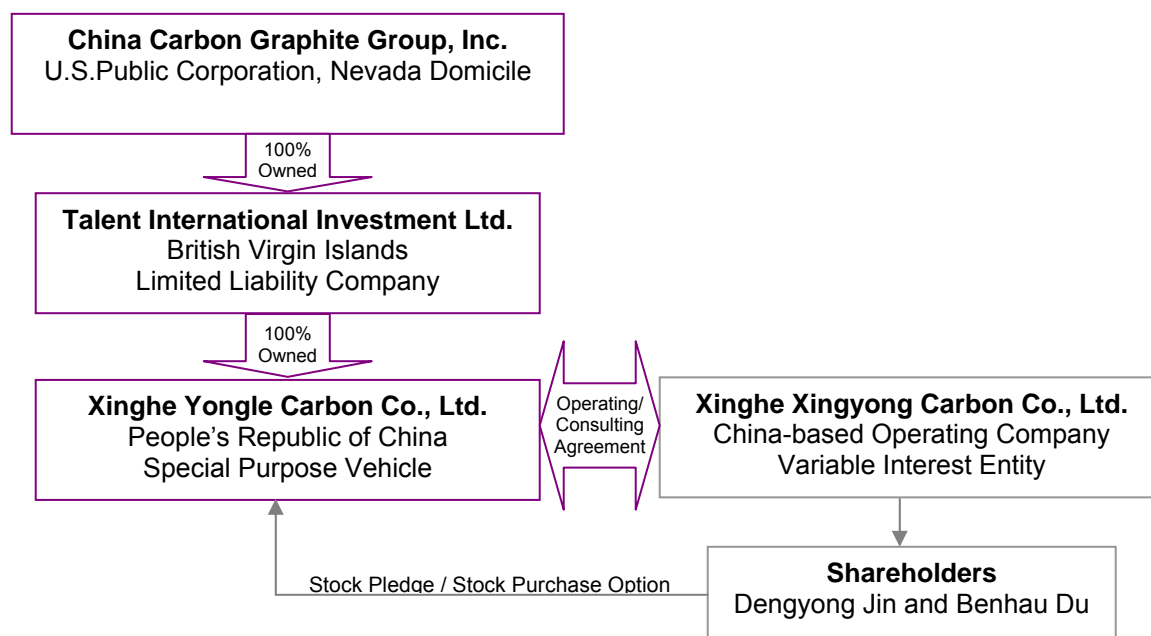
As part of the Company's efforts to meet U.S. requirements for independent directors, Hongbo Liu was nominated as Director in November 2008. Mr. Liu is a professor at Hunan University in the Department of Non-Metallic Materials. He has a doctorate degree in engineering from Hunan University.

### **Organization**

China Carbon Graphite Group is a U.S. company doing business in China through its wholly owned subsidiary, Talent International Investment Ltd. To satisfy restrictions on foreign ownership in the People's Republic of China, the carbon graphite operations of Xinghe Xingyong are controlled through a series of contractual and consulting agreements by Xinghe Yongle Carbon Co., Ltd., which is wholly owned by Talent. The arrangement has become typical for China-based companies seeking to become U.S. domiciled companies for the purpose of registering stock. The shareholders of Xinghe Xingyong, which includes the company's founder and current general manager Dengyong Jin, have pledge 100% of their equity interest in the operating entity to China Carbon's wholly owned China-based subsidiary, Xinghe Yongle. A reverse merger of Talent with a U.S. public shell-company was completed in December 2007, and the Company changed its name to China Carbon Graphite Group in January 2008. (An organization chart depicting the arrangement is presented in Illustration II on page 11.)

The Company recently took action to reduce the capital requirements for the subsidiary through which it does business in China. China's corporate organization laws require registered capital pledges, which in the case of Xinghe Yongle had been set at \$4.0 million, in order to receive a business license. The Company through its subsidiary, Talent, had until December 2009 to submit full capital funding to Yongle. However, in July 2009 Yongle's registered capital was reduced to \$100,000 and the full amount was paid in late August 2009.

We note that while this financial obligation has been satisfied, the amount of Yongle's registered capital may serve as a limitation on the amount of capital financings or foreign currency transactions in Yongle can be a party. That said it may be possible for Yongle's registered capital to be increased at a later time.

**Illustration II: Organizational Chart**

Source: Company Reports and Crystal Equity Research

**FINANCIAL SUMMARY****Accounting Quality**

**Revenue Recognition.** The Company recognizes revenue from the sale of its products upon delivery.

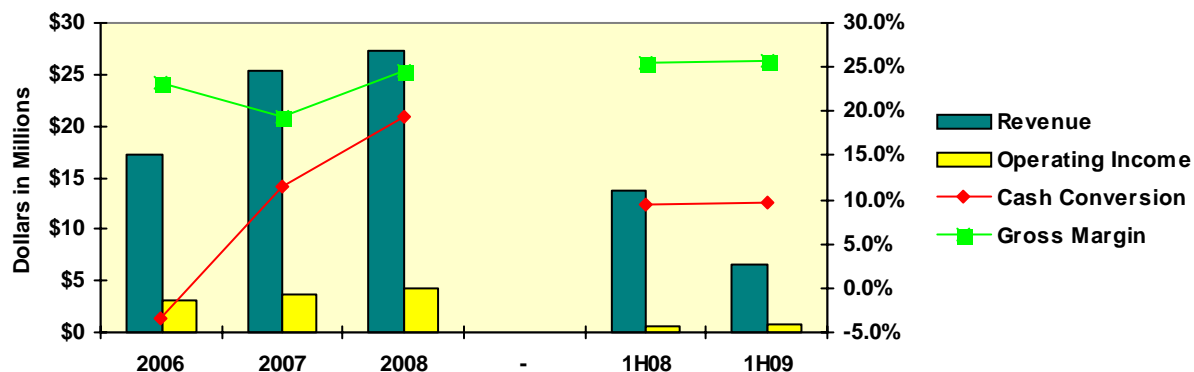
**Significant Accounting Estimates.** In our view, there is little exposure to variance in accounting estimates. Revenue recognition involves no estimates on uncompleted contracts, intangible assets are a small portion of total assets, and following the retirement of the majority of outstanding warrants there is only nominal exposure to estimates associated with derivative accounting.

**Accounts Receivable.** Accounts receivable was \$4.8 million at the end of June 2009 compared to \$4.2 million at the end of December 2008. In our view, the increase was not unreasonable even though the Company reported a sequential decrease in sales during the first half of 2009.

**Inventories.** At the end of June 2009, inventories increased to \$16.4 million from \$15.9 million six months earlier. The nominal increase coincided with a period of declining sales volume following Central Government imposed production stoppage for the Beijing Olympics.

**Intangible Assets.** China Carbon's only intangible assets relate to Company's land use license for its production site. The unamortized portion of the asset was valued at \$3.6 million at the end of June 2009. Such land use rights are transferable with approval by government authorities and therefore can be evaluated against prevailing market conditions for similar properties. Amortization expense totaled \$38,455 in the first six months of 2009. The Company estimates amortization expense will total approximately \$76,358 per year for the next five years.

**Employee Benefits.** Labor laws in the People's Republic of China require support of employee retirement programs by employers. China Carbon contributes to a defined contribution retirement program sponsored by a municipal government in the Company's home province. The Company contributes an amount between 15.5% and 21.5% of the employees' salaries to the program. China Carbon has not disclosed the amount of the contribution.

**Chart IV: Historic Sales and Operating Income**

Source: Company Reports and Crystal Equity Research Estimates

**Off-Balance Sheet Liabilities.** The Company has no off-balance sheet liabilities. However, investors should note the Company has certain contractual commitments that require payment within the next twelve months, including a total \$16.0 million in bank debt (\$10.2 million) and trade notes (\$5.8 million).

**Extraordinary Items.** Reported results in the last eighteen months do not include any extraordinary items, one-time charges or unusual income.

**Internal Controls.** Management has disclosed that its internal controls do not meet Sarbanes-Oxley standards. In addition to the problem of inadequate numbers of individuals to separate duties, the Company's accounting staff is apparently not yet fully trained in U.S. GAAP accounting standards. The Company has engaged an audit consultant to begin instituting the appropriate controls and training.

### **Profitability and Cash Flow**

China Carbon reported \$6.6 million in total sales in the first six months of 2009, well off the run rate set in 2008 when the Company reported a record \$27.3 million in sales. The Company was required by the Chinese government to cease production during the Beijing Olympics during August 2008. Since the production cycle is approximately six months in duration, the stoppage did not begin to impact sales volumes until the first quarter 2009. The global economic slowdown also began impacting demand in the first half of 2009, as customers relied increasingly on just-in-time orders. Management indicates that capacity utilization was near 100% at the close of June 2009.

Despite lower sales volumes in 1H09, the gross margin increased slightly to 25.8% compared to 25.5% in the prior-year period. Profit margins have been climbing steadily over the last three years from 19.3% in 2007 and 24.5% in 2008, in part, we believe due to higher capacity utilization. Margins are also impacted by the sales mix during each period and quarterly margins can vary considerably from annual measurements of profitability. Profit margins on fine grain graphite products can exceed 30% while high purity grade products range from 21% to 30%. In the first half of 2009, margins were positively impacted by a shift in the sales mix favoring higher margin products since the economic downturn had reduced demand for lower margin graphite electrode products.

Operating income declined to \$880,677 from \$2.8 million same period of the previous year. This was largely due to the sharp decline in sales in the first three months of 2009 that was not entirely mitigated by the Company cost control efforts. Operating expenses in 1H09 were 12.4% of total sales compared to 4.4% in the prior-year period.

Reported cash generated by operations was \$6.5 million in 1H09. Excluding the impact on cash flows from the creation of a \$5.8 million trade note receivable we estimate operations generated \$631,954 in cash. This compares to operating cash flow of \$1.3 million in the same period the prior year. The cash conversion rate, excluding the recently created trade account, was 9.6% compared to 9.5% in the first half of 2008. The company was successful in converting 19.5% of total sales in 2008 to cash from operations in the full year 2008.

Free cash flow from operations in 1H09 was \$3.2 million following the investment of \$3.3 million in new equipment and expansion of production capacity. In the full year 2008, free cash flow was \$2.1 million after consideration of \$3.3 million in expenditures for new equipment and facility investments. Investment in production facility that is expected to double capacity to 30,000 tons per year is shown on the balance sheet as construction in progress, which totaled \$3.7 million at the end of June 2009.

### ***Balance Sheet and Capitalization***

At the end of June 2009, cash on the balance sheet totaled \$6.3 million. This compares to just \$51,799 six months earlier. Creation of the \$5.8 million trade account receivable, other cash flows from operations, and execution on a new bank loan contributed to the increase in cash.

Since the close of the June 2009 quarter, the Company announced the retirement of 5,875,000 warrants, for which the Company issued 887,500 shares of common stock. The action increased total shares of common stock outstanding to 14.6 million shares. Approximately 125,000 warrants remain unexercised. The Company also has approximately 250,000 shares of convertible preferred stock outstanding. If fully executive outstanding derivatives would increase common stock to approximately 15.0 million shares, representing 2.7% dilution.

### ***Investment Requirements***

China Carbon's management expects to invest another \$10.0 million in the production expansion project, which is expected to be completed sometime in the first quarter 2010. The Company has made application for a \$26.0 million loan to a government-sponsored program arising from China's 2008 economic stimulus program. Proceeds from the loan are expected to be used to complete the current production augmentation project and to complete the second leg of the long-term plan to upgrade the product line to allow production of nuclear grade graphite.

We estimate execution on the loan would increase the debt-to-equity ratio to 0.71 from 0.11 at the end of June 2009, assuming the loan proceeds were used to retire all trade accounts payable, short-term bank loans and long-term notes currently outstanding. However, working capital would increase to an estimated \$18.7 million from \$10.3 million at the end of June.

## **EARNINGS MODEL**

### ***Second Half 2009***

We expect the second half of 2009 to be a period of strong recovery following a difficult first half. A significant order for graphite electrodes from China's largest maker of rail equipment, Tanrui, is expected to drive the top line. Tanrui is a long-time customer and placed a \$5.0 million order for large-size electrodes that will be delivered over the two-year period beginning September 2009. We expect the order to contribute approximately \$600,000 to each quarter beginning in 4Q09. The order is also expected to impact margins as the sales mix is likely to shift in favor of the lower margin graphite electrode line that is estimated to earn approximately 19% gross margin.

Our 2009 revenue estimate is \$19.8 million, providing \$2.9 million or \$0.20 per share in earnings. We estimate cash flow from operations could reach \$5.0 million, including the trade account receivable negotiated in the June 2009 quarter.

**Year 2010**

While the Tanrui order will continue to impact the top-line through the year 2010, completion of the production expansion is expected to be a more significant driver for top-line growth in the year. Our earnings model is based on the assumption that utilization will ramp gradually to 30,000 by the end of the year 2010. That said we expect a jump in sales beginning in 2Q10, with a more material increase in 3Q10.

The increase in capacity and upgrade in equipment will allow the Company to move more aggressive to penetrate existing markets such as EDM and to pursue new markets such as solar semiconductor and nuclear applications. Management is targeting a 30% gross margin after completion of the production capacity expansion. Our model reflects a gradual increase to that target 30% gross margin by the end of 2010. The margin expansion is expected to accrue from a shift in the sales mix to higher margin products such as the fine grain and high purity graphite grades. The Company has already secured pre-orders for 200 metric tons of its new 3500 mm long fine grain graphite rods, although customer(s) has not been disclosed. We estimate the order is valued at \$1.5 million to \$1.8 million, on which the Company expects to earn as much as 35% profit margin.

The Company plans to increase its sales force by adding experienced sales personnel with contacts in those new target markets. We note that currently sales personnel are salaried employees and are not paid commission. Thus historically selling expenses have been a fixed cost. We believe the Company may enter into commission-based compensation arrangements with new personnel in an effort to encourage exceptional performance. Our assumptions for selling expenses reflect an increase in selling expenses, but may require adjustment as we gain more visibility into the pace of new sales and final compensation arrangements.

Our 2010 revenue estimate is \$36.0 million, providing \$5.0 million or \$0.34 per share in earnings. Cash flow from operations is estimated to reach \$7.2 million, assuming recent patterns in working capital accounts. Our cash flow assumption represents a cash conversion rate of 20%, in-line with the 2009 rate of cash conversion when we believe profitability and cash flow generation reflected normalized operations.

**Year 2011 and Beyond**

Although we have not published revenue estimate past the year 2010, we believe the carbon graphite market can support double digit growth in China Carbon's top-line for the next several years. Thus we do not believe the Company's expansion and production upgrade will be the final chapter in the Company's growth story. Our view is based on the following long-term demand drivers for the Company's carbon graphite products:

- Expanded use of lithium ion battery used for mobile and other electronic devices
- Expansion of aerospace and wind-energy applications with intensive metal alloy and ceramic components made from graphite
- Expansion of nuclear power production using graphite-moderated reactors, especially in China
- Continued adoption of sinker-type EDM using graphite electrodes as the preferred method of cutting hard metals and electrically conductive metals such as titanium
- Development of new industrial applications for graphite materials
- New purification technologies that improve performance of graphite materials
- More effective graphite processing and production techniques that reduce costs and increase competitive position of graphite relative to other materials

**Earnings Model Risk**

We suggest investors use our earnings model as a demonstration of one possible scenario for the financial performance of China Carbon Graphite in the next several quarters. Our model is highly dependent upon the assumption that the production expansion project will be completed by the end of 1Q10. Any delay in construction or the installation of required equipment would render our model

obsolete. Likewise a delay in obtaining approval of the pending loan application could delay completion of that project if other financing is not used.

Our model is also dependent upon our assumption that profit margins increase in a fairly uniform rate. China Carbon's profit margin is highly sensitive to the product mix. We have little visibility into the sales mix as the Company begins its approach to new markets with its higher grade graphite products.

The model does not reflect possible increase in long-term debt that would occur if the Company's pending loan application for \$26.0 million is approved. We anticipate revising the model if and when that loan is executed. The Company expects a final decision sometime in the third quarter 2009.

Investors may note that our 2009 and 2010 comprehensive income estimates are considerably lower than the \$6.0 million in comprehensive income reported by the Company in the year 2008. We have not included an allowance for foreign currency adjustments in our 1H09 and Year 2010 estimates. Furthermore, the foreign currency adjustment in 2008 was significant. In our view, net income available to shareholders is the preferred figure for time series comparisons as it eliminates the potential variance that can be injected into reported comprehensive income.

***Additional information is available upon request.***

**Table II: Historical and Projected Balances**

Dollars in Thousands	2006	2007	2008	2009E
<b>CURRENT ASSETS</b>				
Cash & cash equivalents	45	5	52	4,613
Accounts receivable, net	2,804	4,868	4,224	5,425
Inventories	13,019	14,627	15,890	18,002
Other current assets	132	1,646	1,486	1,486
<b>Total current assets</b>	<b>16,000</b>	<b>21,146</b>	<b>21,652</b>	<b>29,526</b>
<b>LONG-TERM ASSETS</b>				
Property, plant & equipment, net	19,044	19,622	21,004	23,737
Construction in progress	-	-	2,029	2,029
Other long-term assets	775	2,842	3,604	3,604
<b>TOTAL ASSETS</b>	<b>35,819</b>	<b>43,610</b>	<b>48,289</b>	<b>58,896</b>
<b>CURRENT LIABILITIES</b>				
Accounts payable	1,093	989	1,253	1,807
Accrued liabilities	189	2,698	1,553	2,891
Trade account payable	-	-	-	5,800
Loan from shareholder	4,985	4,544	-	-
Convertible note	-	400	-	-
Current portion of long-term debt	5,878	6,716	1,897	1,787
Short-term bank loans	-	-	4,888	4,888
<b>Total current liabilities</b>	<b>12,145</b>	<b>15,347</b>	<b>9,591</b>	<b>17,174</b>
Long-term debt	-	-	3,210	3,320
<b>STOCKHOLDER'S EQUITY</b>				
Convertible preferred stock	-	-	1	1
Common stock	10	13	12	12
Additional paid-in capital	6,640	6,638	8,691	8,691
Treasury stock	-	(150)	-	-
Accumulated other comprehensive loss	1,154	2,948	4,991	4,991
Retained earnings (deficit)	15,870	18,814	21,794	24,708
<b>Total stockholders' equity</b>	<b>23,674</b>	<b>28,263</b>	<b>35,488</b>	<b>38,402</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>35,819</b>	<b>43,610</b>	<b>48,289</b>	<b>58,896</b>
<b>SELECTED MEASURES</b>				
Sales growth		47.4%	7.7%	-27.5%
Net income growth		-34.1%	-10.8%	-26.8%
Growth in cash from operations		-606.2%	89.9%	59.3%
Growth in accounts receivables		73.6%	-13.2%	28.4%
Growth in inventories		12.4%	8.6%	13.3%
Return on invested capital	11.3%	12.7%	10.3%	7.0%
Return on assets		9.0%	8.7%	5.4%
Debt-to-equity	0.0%	0.0%	9.0%	8.6%
Working capital, 000s	3,855	5,799	12,061	12,352
Total capital (long-term debt & equity)	23,674	28,263	38,698	41,722

Source: Company Reports and Crystal Equity Research Estimates

**Table III: Historical and Projected Cash Flows**

	2006	2007	2008	2009E
<b>CASH FROM OPERATIONS</b>				
Net income (loss)	2,681	3,594	3,982	2,914
Adjustments to reconcile net income:				
Depreciation & amortization	974	1,147	1,255	1,374
Trade account receivable	-	-	-	5,801
Changes in assets & liabilities:				
(Increase) decrease in accounts receivable	(812)	(1,872)	955	(1,201)
(Increase) decrease in inventories	(4,486)	(716)	(277)	(2,112)
(Increase) decrease in other assets	1,368	(1,506)	553	-
Increase (decrease) in accounts payable	(403)	(279)	304	554
Increase (decrease) in accrued liabilities	112	2,497	(1,330)	1,338
<b>Net cash provided by (used in) operating activities</b>	<b>(566)</b>	<b>2,865</b>	<b>5,442</b>	<b>8,669</b>
<b>CASH FLOWS FROM INVESTING</b>				
Purchase of property, plant & equipment	(194)	(2,435)	(1,251)	(4,107)
Acquisitions, net of cash acquired	-	-	(631)	-
Payments related to intangible assets	-	-	(1,998)	-
<b>Net cash used in investing activities</b>	<b>(194)</b>	<b>(2,435)</b>	<b>(3,880)</b>	<b>(4,107)</b>
<b>CASH FLOWS FROM FINANCING</b>				
Net proceeds (payments) long-term debt	720	(648)	(1,540)	-
<b>Net cash provided by (used in) financing activities</b>	<b>720</b>	<b>(648)</b>	<b>(1,540)</b>	<b>-</b>
Effects of exchange rate changes on cash	72	177	25	-
<b>NET INCREASE (DECREASE) IN CASH</b>	<b>32</b>	<b>(41)</b>	<b>47</b>	<b>4,562</b>
CASH & EQUIVALENTS, beginning	13	45	4	51
<b>CASH &amp; EQUIVALENTS, ending</b>	<b>45</b>	<b>4</b>	<b>51</b>	<b>4,613</b>
<b>SUPPLEMENTAL CASH FLOW INFORMATION</b>				
Interest paid	422	495	581	600
<b>SELECTED MEASURES</b>				
Growth in cash flow from operations		-606.2%	89.9%	59.3%

Source: Company Reports and Crystal Equity Research Estimates

**Table IV: Historical and Projected Sales and Expenses**

Dollars in Thousands	2006	2007	1Q08	2Q08	3Q08	4Q08	2008	1Q09	2Q09	3Q09E	4Q09E	2009E	2010E
Total revenue	17,199	25,357	5,728	7,924	7,509	6,143	27,304	2,894	3,658	6,000	7,250	19,802	36,000
Cost of sales	13,234	20,447	4,366	5,817	5,384	5,039	20,606	2,053	2,804	4,380	5,220	14,457	25,605
Gross profit	3,965	4,910	1,362	2,107	2,125	1,104	6,698	841	854	1,620	2,030	5,345	10,395
Operating expenses:													
Selling	330	124	20	150	269	66	505	309	9	300	363	981	1,599
General & administrative	556	1,121	150	250	177	1,375	1,952	136	322	450	544	1,452	2,612
Depreciation & amortization	17	16	15	16	19	18	68	19	19	35	35	108	140
Total operating expenses	903	1,261	185	416	465	1,459	2,525	464	350	785	941	2,540	4,351
Operating income (loss)	3,062	3,649	1,177	1,691	1,660	(355)	4,173	377	504	835	1,089	2,805	6,044
Other income (expense)													
Interest expense	(422)	(495)	(133)	(136)	(144)	(168)	(581)	(198)	(206)	(255)	(255)	(915)	(1,021)
Other, net	41	440	199	4	12	175	390	292	232	250	250	1,024	-
Total other income (expense)	(381)	(55)	66	(132)	(132)	7	(191)	94	26	(5)	(5)	109	(1,021)
Income (loss) before income taxes	2,681	3,594	1,243	1,559	1,528	(348)	3,982	471	530	830	1,083	2,914	5,023
Provision for income taxes (benefit from)	-	-	-	-	-	-	-	-	-	-	-	-	-
Net income (loss)	2,681	3,594	1,243	1,559	1,528	(348)	3,982	471	530	830	1,083	2,914	5,023
Preferred dividend	-	-	(854)	-	-	-	(854)	-	-	-	-	-	-
Income available to shareholders	2,681	3,594	389	1,559	1,528	(348)	3,128	471	530	830	1,083	2,914	5,023
Foreign currency translation gain	-	1,794	1,252	-	85	706	2,043	45	3	-	-	48	-
Total comprehensive income	2,681	5,388	2,495	1,559	1,613	358	6,025	516	533	830	1,083	2,962	5,023
Net EPS (loss), shareholders	\$ 0.26	\$ 0.34	\$ 0.02	\$ 0.08	\$ 0.08	\$ (0.02)	\$ 0.21	\$ 0.03	\$ 0.04	\$ 0.06	\$ 0.07	\$ 0.20	\$ 0.34
Weighted shares outstanding, diluted	10,388	10,506	18,757	19,919	19,419	19,500	14,623	13,847	14,239	14,900	14,900	14,472	15,000

Source: Company Reports and Crystal Equity Research Estimates

**Table V: Selected Measures of Historical and Projected Sales and Expenses**

Dollars in Thousands	2006	2007	1Q08	2Q08	3Q08	4Q08	2008	1Q09	2Q09	3Q09E	4Q09E	2009E	2010E
Total revenue	17,199	25,357	5,728	7,924	7,509	6,143	27,304	2,894	3,658	6,000	7,250	19,802	36,000
Operating income (loss)	3,062	3,649	1,177	1,691	1,660	(355)	4,173	377	504	835	1,089	2,805	6,044
Net income (loss)	2,681	3,594	1,243	1,559	1,528	(348)	3,982	471	530	830	1,083	2,914	5,023
Total comprehensive income	2,681	5,388	2,495	1,559	1,613	358	6,025	516	530	830	1,083	2,914	5,023
Net EPS (loss), shareholders	\$ 0.26	\$ 0.34	\$ 0.02	\$ 0.08	\$ 0.08	\$ (0.02)	\$ 0.21	\$ 0.03	\$ 0.04	\$ 0.06	\$ 0.07	\$ 0.20	\$ 0.34
Weighted shares outstanding, diluted	10,388	10,506	18,757	19,919	19,419	19,500	14,623	13,847	14,239	14,900	14,900	14,472	15,000
SELECTED MEASURES:													
Sales growth, yr/yr		47.4%					7.7%					-27.5%	81.8%
Net income growth, yr/yr		-34.1%					-10.8%					-26.8%	72.4%
EPS growth, yr/yr		-32.5%					20.4%					-26.1%	66.3%
Gross margin	23.1%	19.4%	23.8%	26.6%	28.3%	18.0%	24.5%	29.1%	23.3%	27.0%	28.0%	27.0%	28.9%
Operating margin	17.8%	14.4%	20.5%	21.3%	22.1%	-5.8%	15.3%	13.0%	13.8%	13.9%	15.0%	14.2%	16.8%
EBIT margin	18.0%	16.1%	24.0%	21.4%	22.3%	-2.9%	16.7%	23.1%	20.1%	18.1%	18.5%	19.3%	16.8%
Net margin	15.6%	14.2%	21.7%	19.7%	20.3%	-5.7%	14.6%	16.3%	14.5%	13.8%	14.9%	14.7%	14.0%
Direct costs, % sales	76.9%	80.6%	76.2%	73.4%	71.7%	82.0%	75.5%	70.9%	76.7%	73.0%	72.0%	73.0%	71.1%
Selling expense, % sales	1.9%	0.5%	0.3%	1.9%	3.6%	1.1%	1.8%	10.7%	0.2%	5.0%	5.0%	5.0%	4.4%
G&A expense, % sales	3.2%	4.4%	2.6%	3.2%	2.4%	22.4%	7.1%	4.7%	8.8%	7.5%	7.5%	7.3%	7.3%
Effective tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EBITDA, \$\$	4,036	4,796					5,428					4,179	7,444
EBITDA margin	23.5%	18.9%					19.9%					21.1%	20.7%

Source: Company Reports and Crystal Equity Research Estimates

Table VI: Peer Group Comparisons - Market Data

COMPANY	SYM	OPERATIONS	RECENT PRICE	TRLNG REV MM	OPER MARGIN	DEBT / EQUITY	ROE	MARKET CAP MM	PRICE/ SALES	PRICE/ CFO	PRICE/ EPS	PRICE/ BK VAL
Entegris, Inc.	ENTG: Nasdaq	Graphite materials	\$4.07	\$400.1	-10.5%	0.55	-103.8%	\$463.8	1.1	16.3	Neg	1.7
Fangda Carbon New Material Co.	600516: Shanghai	Graphite materials	\$1.21	\$578.0	16.8%	0.05	21.1%	\$1,543.1	3.7	Neg	24.2	4.0
Graftech International Corp.	GTI: NYSE	Graphite materials	\$14.45	\$872.5	21.2%	0.13	19.5%	\$1,740.0	2.0	8.3	18.1	3.3
Nippon Carbon Co., Ltd.	5302: Tokyo	Graphite materials	\$5.50	\$8,171.0	15.3%	0.18	12.4%	\$626.2	0.9	Neg	9.4	1.3
SGL Carbon AG	SGCG: Frankfurt	Graphite materials	\$36.36	\$2,083.1	14.5%	0.70	14.6%	\$2,372.0	1.1	9.1	15.0	1.9
Showa Denko Carbon	4004: Tokyo	Graphite materials	\$2.20	\$8,296.0	4.5%	1.27	8.0%	\$4,521.6	0.3	8.3	Neg	1.3
Sinosteel Jilin Carbon Company	000928: Shnzhn	Graphite materials	\$1.11	NA	NA	NA	NA	\$314.2	NA	NA	NA	NA
Tokai Carbon Company Ltd.	5301: Tokyo	Graphite materials	\$4.90	\$1,071.6	14.5%	0.11	8.4%	\$1,067.1	1.0	7.4	19.2	0.9
AZZ, Inc.	AZZ: NYSE	Graphite products	\$35.65	\$407.9	17.5%	0.50	23.5%	\$434.0	1.0	5.7	10.5	2.1
Cytec Industries of the U.S.	CYT: NYSE	Graphite products	\$28.41	\$2,960.0	4.0%	0.50	-18.5%	\$1,380.0	0.5	3.7	Neg	0.9
Graphite India Ltd.	509488: Bombay	Graphite products	\$1.24	NA	17.2%	NA	NA	NA	NA	NA	NA	NA
HEG, Inc. (India)	509631: Bombay	Graphite products	\$5.37	\$208.4	17.1%	NA	NA	\$53.5	1.0	6.3	9.3	NA
Hexcel Corp.	HXL: NYSE	Graphite products	\$10.82	\$1,210.0	11.5%	0.71	19.0%	\$1,050.0	0.9	6.0	10.4	1.8
SEC Carbon Ltd. (Japan)	5304: Oskak	Graphite products	\$7.06	\$197.5	15.6%	0.00	5.2%	\$290.4	1.5	96.7	17.0	0.9
TOHO Tenax (Teijin Group)	3401: Tokyo	Graphite products	\$3.10	\$61,958.0	-2.0%	0.61	-10.0%	\$3,050.9	0.4	Neg	Neg	1.0
Toray Group	3402: Tokyo	Graphite products	\$5.65	\$278,663	4.2%	0.96	6.6%	\$7,911.0	3.9	0.1	197.6	1.5
Zoltek, Inc.	ZOLT: Nasdaq	Graphite products	\$9.37	\$156.0	0.6%	0.06	-0.7%	\$322.3	2.0	25.8	46.9	1.0
Carbone Lorraine, S.A.	CBLP: Paris	Graphite products	\$31.42	\$303.1	11.1%	0.79	11.6%	\$484.5	0.5	4.8	8.6	0.9
China Direct Industries, Inc.	CDII: Nasdaq	China industrial materials	\$1.57	\$144.3	-2.2%	0.05	-8.2%	\$41.8	0.3	3.8	Neg	1.9
China Sun Group High Tech Co.	CSGH: OTC/BB	China industrial materials	\$1.15	\$37.0	31.1%	0.00	33.4%	\$61.4	1.7	6.6	7.2	1.9
ShengdaTech, Inc.	SDTH: Nasdaq	China industrial materials	\$6.33	\$128.0	33.8%	0.48	24.2%	\$343.1	2.4	10.4	13.0	41.7
Exosia Advanced Materials, Inc.	EXOU: OTC/BB	China industrial materials	\$0.25	\$0.8	-817.3%	3.69	-533.8%	\$14.3	17.5	Neg	Neg	2.0
China Advanced Construction Mtrls.	CADC: OTC/BB	China industrial materials	\$4.75	\$52.8	30.7%	0.15	36.2%	\$49.9	1.5	33.1	8.0	

Source: Company Reports and Crystal Equity Research Estimates

**Table VII: Peer Group Comparisons - Averages**

COMPANY	SYM	OPERATIONS	RECENT PRICE	TRLNG REV MM	OPER MARGIN	DEBT / EQUITY	ROE	MARKET CAP MM	PRICE/ SALES	PRICE/ CFO	PRICE/ EPS	PRICE/ BK VAL
		China Materials Group (excludes China graphite)							4.7	13.5	9.4	11.0
		Graphite Materials Group							1.5	9.9	17.2	2.1
		Graphite Products Group							1.3	18.6	42.9	1.3
		All Graphite-related							1.4	15.3	32.2	1.6
		Total Peer Group							1.4	15.3	32.2	1.6
<b>China Carbon Graphite Group</b>	<b>CHGI: OTC/BB</b>	<b>Graphite materials</b>	<b>\$1.30</b>	<b>\$20.2</b>	<b>21.8%</b>	<b>0.11</b>	<b>6.3%</b>	<b>\$16.2</b>	<b>1.0</b>	<b>1.8</b>	<b>7.2</b>	<b>0.5</b>

Source: Company Reports and Crystal Equity Research Estimates

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The analyst who is primarily responsible for this research and whose name is listed first under Analysts above certifies that: 1) all of the views expressed in this research accurately reflect his or her professional views about any and all of the subject securities or issuers, and 2) no part of any of the analyst's compensation was, is or will be directly or indirectly related to the specific rating expressed by analyst in this research.

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Speculative Buy	3	60%	Unproved business model; catalysts exist to generate higher returns
Accumulate	1	20%	Long-term return potential above 10%; near-term catalysts may not exist
Hold	0	0%	Total return potential below 10%; an acceptable long-term holding
Sell	0	0%	Potential return greater than negative 10%; take profits or stem losses
Not Rated	1	20%	No rating
<b>Total</b>	<b>5</b>	<b>100%</b>	

\*Research universe categorized by rating only; Crystal Equity Research provides no investment banking services.

## HISTORICAL RECOMMENDATIONS AND TARGET PRICE: China Carbon Graphite / CHGI

<u>Report</u>	<u>Date</u>	<u>Price</u>	<u>Rating</u>	<u>Target Price</u>
Initial	9/8/09	\$1.30	Speculative Buy	\$3.40

**DISCLOSURES**

<u>Name</u>	<u>Symbol: Exchange</u>	<u>Disclosures</u>
China Carbon Graphite Group, Inc.	CHGI: OTC/BB	D, E

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