HEG

Re-rating expected post uptick in volumes

India Equity Research I Engineering & Capital Goods | December 1, 2010 | Initiating coverage

We initiate coverage of HEG with a BUY rating and a 12-month price target of Rs324, implying 22% potential upside from current levels. We believe HEG is an attractive play on the graphite electrodes (GE) industry and it is expected to benefit by the recovery in the steel cycle. A steady improvement in capacity utilization levels based on increased capacity with a recovery in margins is likely to result in steady growth in earnings even with muted realizations. The company's focus on cost controls and assuring raw materials and power supplies in advance is likely to provide for stable operating margins and higher capacity utilization rates. The stock trades at 5.6x FY12E EV/EBITDA and 7.8x FY12E earnings, which, in our view, is not justified, given a potential rebound in return ratios from FY12 and another Rs42/share upside from the possible Bhilwara Energy (BEL) listing.

- **Recovery in steel production to prop up demand:** With global steel production expected to increase by 11% in 2010, largely due to a pick-up in demand from emerging markets as per quant Metals and Mining Analyst, Kalpesh Makwana, after registering a sharp drop of 8% in 2009. In addition to planned EAF capacity additions in Asia and the Middle East, HEG should be able to return to 75%-plus utilization levels over the next two years, but realizations are expected to remain muted due to competition. We expect Indian players to continue to take away market share from global majors on account of cost advantages, especially on labour and freight charges.
- **Cost control measures to improve profitability with needle coke prices holding firm:** We expect margins to recover on account of 77 MW of captive power with an option of merchant selling, increasing utilization levels, lower manpower costs, economies of scale and advance booking of needle coke requirements despite lower realizations in core business. These should keep HEG ahead of global peers in terms of profitability and capacity utilization. With needle coke prices expected to remain firm due to high crude oil prices and tight supply, profitability will to a large extent be dependent on cost control measures.
- **BEL listing to unlock further value:** HEG holds a 26% stake in BEL, which is expected to get listed in CY11 to unlock further value for HEG shareholders. We have arrived at a value of Rs42/share assuming a 2x P/B for its completed projects. However, as per a recent stake dilution in BEL, HEG's investment value works out to Rs126/share.
- **Management on course to increase capacity:** HEG continues its organic growth through a continuous capacity buildup in GE and captive power, helped by management's technological expertise and single-location advantage. The company plans to raise its GE capacity from 66,000 tonnes to 80,000 tonnes at an estimated capex of Rs2.75 bn, which is expected to be completed by September 2011.
- **Profitability and valuation:** With an expected recovery in ROCE back to 15-16% levels and a sustainable business model, we value HEG at 5.8x FY12E core EV/EBITDA, which will be a 10% discount to its five-year average one-year forward EV/EBITDA and ascribe a value of Rs42/share to its stake in its associate company, BEL.
- **Risk factors have the potential to derail growth common to the GE industry:** A decrease in realizations due to competition or lower-than-expected EAF steel production can lead to margin contraction, in the event HEG — which has limited pricing power — is unable to pass on cost increases to steel majors. Non-availability of needle coke and currency fluctuations also pose as major risks to earnings.

BUY **Rs265**

Reuters: HEGL.IN | Bloomberg: HEG IN

12-month price target **Rs324**

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Market cap	Rs11.3 bn (US$0.25 bn)
52 week high/low:	Rs413/Rs245
Share o/s:	42.8 mn
Avg daily trading vol (3m):	56.1 ('000)
Avg daily trading val (3m):	Rs17 mn (US$0.4 mn)

Quant vs. Consensus

	PT	EPS (FY12E)
Mean	334	34.2
High	345	38.0
Low	323	30.4
Quant	324	33.9

	Buy(s)	Hold(s)	Sell(s)
Nos	2	0	0

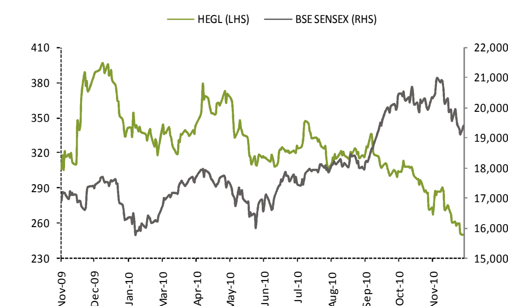
Source: Bloomberg

Shareholding pattern

	Sep 10	Jun 10	Mar 10
Promoters	52.3	52.3	52.6
FIIs	2.7	2.9	2.9
MF/s/FIs/Banks	16.8	17.1	17.0
Others	30.9	30.7	30.5

Source: BSE

Price movement



Source: Bloomberg

Exhibit 1. Financials and valuation summary

	Revenue		EBITDA		Adjusted net income		EPS	ROaCE	ROaE	PE	EV/EBITDA
	(Rs mn)	Growth (%)	(Rs mn)	Growth (%)	(Rs mn)	Growth (%)	(Rs/share)	(%)	(%)	(x)	(x)
2009	10,257.4	8.3	2,585.5	(5.5)	1,069.9	(26.9)	25.1	15.8	18.9	10.6	7.5
2010	11,314.0	10.3	3,390.0	29.6	1,710.6	59.9	39.9	18.9	24.0	6.6	5.5
2011E	11,283.2	-0.3	2,781.6	(17.9)	1,102.6	(35.5)	25.7	13.4	12.8	10.3	6.9
2012E	12,332.1	9.3	3,436.5	23.5	1,451.5	31.6	33.9	15.5	15.5	7.8	5.6

Note: Pricing as on 1 December 2010; Source: Company data, Quant Global Research estimates

Table of Contents

Investment summary 3

Investment arguments

- Macro drivers for GE industry indicate a recovery 4
- HEG is a niche player set to gain from steel recovery 8

Financials - Expected growth from FY12 supports further upside 12

Valuations 15

Key risks and company background 16

Company background 17

Financial Summary 18

Investment summary

Volume growth to lead to a recovery in earnings

We value HEG at 5.8x FY12E core EV/EBITDA, which is at a discount of 10% to its five-year, one-year forward EV/EBITDA average and ascribe a value of Rs42/share to its stake in BEL

We estimate a 4% revenue CAGR for HEG during FY10-FY12, leading to a revenue of Rs12.33 bn in FY12. This is led by our estimated sales volume of 55,100 tonnes in FY11 and 59,400 tonnes in FY12 against 45,600 tonnes in FY10. With capacity expansion to 80,000 tonnes from 66,000 tonnes expected to be completed in FY12E, capacity utilisation levels are expected to go up to 83.5% in FY11 and 74% in FY12, much better than the 67% HEG managed in FY10. On the realisation front, after a strong couple of years when realisations grew by 30% and 5% in FY09 and FY10, respectively, we are factoring in a fall of 12% in FY11E and a recovery of 5% in FY12E, led by demand recovery as electric arc furnace (EAF) steel production gets back on track over the next few quarters.

We expect a muted EBIDTA performance over FY10-FY12E as needle coke prices are estimated to remain high and likely will offset any benefits on account of operational efficiencies, although we can see improvement from FY13. We expect PAT to remain muted over the same period on account of higher interest costs and depreciation due to expanded capacity, as absolute PAT levels in FY10 were at record highs. Profitability may decrease on account of lower sales of power due to captive consumption once expanded capacity gets commissioned. Again, absolute PAT levels should start improving from FY13.

HEG is currently trading at 5.6x FY12E EV/EBITDA and 7.8x FY12E EPS of Rs33.9 versus a five-year average one-year forward EV/EBITDA of 6.5x and 8.1x earnings. The stock has been under pressure in the past two quarters on account of disappointing volumes over the past few quarters and slower-than-expected demand pick-up after the recovery in the steel cycle. But, we believe that with the steel recovery underway, EAF steel production will rebound strongly, and, thereby, result in a strong recovery in demand for graphite electrodes. This should help HEG operate at above 85% capacity utilisation level based on current capacity, which should help the company to start trading again near its historic multiples with a continuation of improving operating efficiencies and robust return ratios.

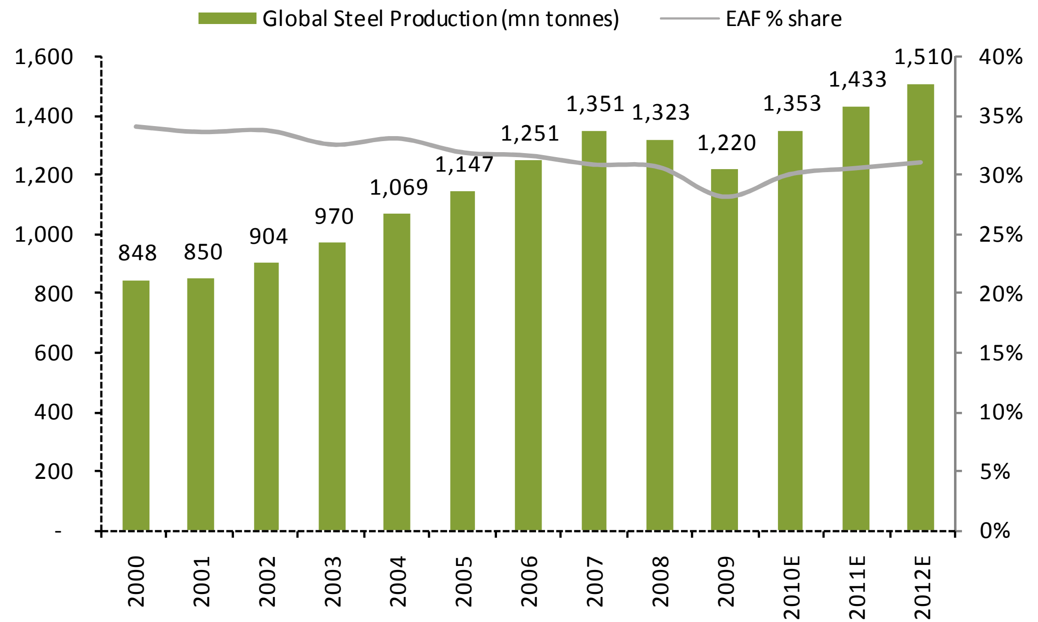
We value HEG at 5.8x FY12E core EV/EBITDA, which is at a discount of 10% to its five-year average one-year forward EV/EBITDA, given subdued earnings and return ratios in the near term, ascribing a target value of Rs282 for the core business. A value of Rs42/share for the stake in BEL leads to a 12-month price target of Rs324, implying potential upside of 22% from current levels. We expect the stock to re-rate once realisations stabilise at higher than current levels and the needle coke contract is tied up until CY11. Another factor which could unlock further value for HEG shareholders could be the listing of group company Bhilwara Energy (BEL), where HEG holds a 25.8% stake valued at Rs126 per share based on a recent deal done with IFC and India Clean Energy Fund. However, we have assigned a value of Rs42/share to the BEL investment for our target price calculation assigning a 2x P/BV to only completed projects.

Macro drivers for the GE industry indicate a recovery

The current GE market is at around US$3-4 bn globally, given capacity of about 1 mn tonnes and prices in the range of US$3,000-4,000 per tonne

Graphite electrode, a major product by HEG, is a consumable used in steelmaking through the electric arc furnace (EAF) route. It is used in high intensity melting and one electrode is consumed in approximately eight to 10 hours, as per management. Therefore, demand for GE is directly related to the production of steel through the EAF route. Normally, one tonne of steel requires between 1.5kg and 2.0kg of GE depending on the grade used. This puts the current GE market size at around US$3-4 bn globally given capacity of about 1 mn tonnes and prices in the range of US$3,000-4,000 per tonne.

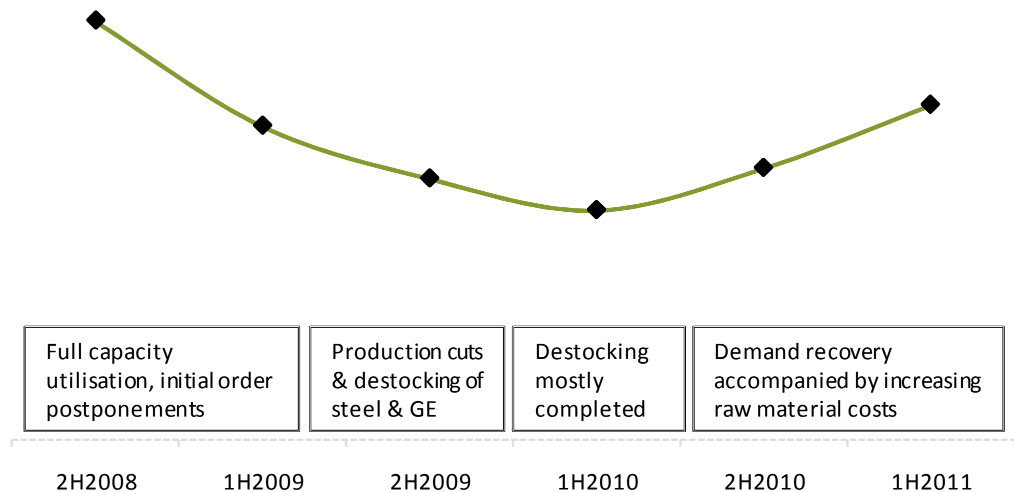
Exhibit 2: EAF share in total steel production to improve after bottoming in 2009



Source: World Steel Association, Industry, Quant Global Research estimates

Expected recovery in steel production to prop up demand

Exhibit 3: GE demand is showing signs of a recovery



Source: World Steel Association, Industry, Quant Global Research

We expect global steel production, after dipping in 2008-09, to recover sharply from 2010. The share of steel manufactures through the EAF route has also declined to 28.1% in 2009, the first time it has been below 30% for the past 10 years. This has happened on account of China adding large blast furnace (BF) capacities and production & inventory cuts by manufacturers hit by the global recession. Typically, in case of a slowdown in demand, EAF steel facilities get hit first before BF facilities as they are smaller and cheaper and easy to stop and restart. This has led to a significant decline in GE production across the globe with global majors like SGL Carbon (SGL GY, Not rated) and Graftech (GTI US, Not rated) recording a significant decline in volumes of more than 20% in 2009, as per press releases of SGL Carbon and Graftech.

Exhibit 4: EAF share in total steel production to improve after bottoming in 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010E	2011E	2012E
Crude steel production (mn tonnes)	848	850	904	970	1,069	1,147	1,251	1,351	1,323	1,220	1,353	1,433	1,510
Steel production % change YOY		0.3%	6.3%	7.3%	10.2%	7.3%	9.1%	8.0%	-2.1%	-7.8%	10.9%	5.9%	5.4%
EAF Steel production (mn tonnes)	288	285	305	315	353	365	395	416	405	343	406	437	468
EAF share % change YoY		-1.0%	6.8%	3.5%	12.0%	3.4%	8.2%	5.4%	-2.8%	-15.3%	18.4%	7.6%	7.1%
Share of EAF in total steel	34.0%	33.6%	33.7%	32.5%	33.0%	31.8%	31.6%	30.8%	30.6%	28.1%	30.0%	30.5%	31.0%
GE Consumption per tonne	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	1.9	1.8	1.8	1.7
GE Demand (tonnes)	576,656	570,652	609,224	630,506	705,970	730,002	869,125	874,558	809,492	651,206	730,643	786,500	795,731

Source: World Steel Association, Industry, Quant Global Research estimates

We expect this declining EAF production scenario to change from CY10 and volumes to strengthen, as manufacturers start restocking inventory and restart EAF facilities. In our view, our Metals & Mining Analyst Kalpesh Makwana believes there is strong growth visibility for steel demand over the next few years, which should encourage steel manufacturers to increase GE inventory levels. Furthermore, upcoming EAF facilities in China and the Middle East would also help in bringing back the share of EAF in total steel production to above 30% in the next few years.

Relatively inelastic demand due to absence of substitutes and low costs

As GE costs less than 2% of total operating cost, steel manufacturers prefer higher grade GE from known players even if they have to a pay higher costs

Exhibit 5: GE costs less than 2% of total cost of production of EAF steel

Particulars		EAF Production	BF Production
Iron ore (Fines & Pellets)			
	Purchased	US$ 0	US$ 70
	Self supplied	US$ 0	US$ 24
Coking coal			
	Purchased	US$ 0	US$ 71
	Self supplied	US$ 0	US$ 4
Scrap, Pig iron & DRI		US$ 283	US$ 25
Electricity		US$ 42	US$ 14
Electrodes		**US$ 9**	**US$ 0**
Other Energy		US$ 26	US$ 62
Net Labor		US$ 35	US$ 70
Freight(inbound)		US$ 22	US$ 48
All other costs		US$ 36	US$ 65
Total		**US$ 453**	**US$ 454**

Note: Data as on March 2010; Source: WDC Cost Curve, Industry, Quant Global Research

Demand for GE is inelastic as it is an important consumable in steel production using the EAF route. As of now, there are no reliable substitutes for ultra high power (UHP) grade GE in the market, which can pose a demand threat, we believe. As GE is a critical component in the steelmaking process, steel manufacturers do not prefer using other substitutes and prefer to use materials from a specific supplier. As GE costs less than 2% of total operating cost, steel manufacturers prefer higher grade GE from known players even if they have to a pay slightly higher costs. This keeps demand for UHP GEs sustainable and reduces significant fluctuations in GE realisations, in our view.

The share of EAF in total steel production has been around 30% except in 2009 when it declined to 28.1%. Longer term, we expect the share of steel production through this route to increase over the traditional BF route, owing to advantages like lower capex requirements, flexible production schedules due to easy restarting option and better product mix capabilities, although cost advantage over the BF route is difficult to comment on as it is highly dependent on steel scrap as availability is region-specific and its prices are volatile.

Strong entry barriers keep new players in check

There are only a few global players in the GE industry (refer to exhibit 5) as it requires a high degree of technological expertise to manufacture customised UHP electrodes from each furnace. Although other players have tried to copy this method, product quality varies and fails to meet standards set by global steel majors. The GE industry is also relationship-driven, whereby referrals from top steel manufacturers are critical, in our view. Getting approvals and referrals from steel manufacturers' takes years as most prefer to do business only with tried-and-tested suppliers because they would rather not risk the quality of products on a relatively low-cost item like GE which constitutes only about 2% to the total cost of production of steel. Another key entry barrier is the supply of needle coke, which needs established relationships with limited suppliers in the world.

Exhibit 6: Top two players — Graftech and SGL Carbon — control about 47% of total GE market (CY09)

Major GE Producers		Capacity (tonnes)
Graftech International	USA	220,000
SGL Carbon	Germany	220,000
Tokai Carbon	Japan	100,000
Showa Denko Carbon	Japan	100,000
Graphite India	India	78,000
HEG Ltd	India	66,000
SEC	Japan	45,000
Nippon Carbon	Japan	40,000
Others	China	75,000
Total		**944000**

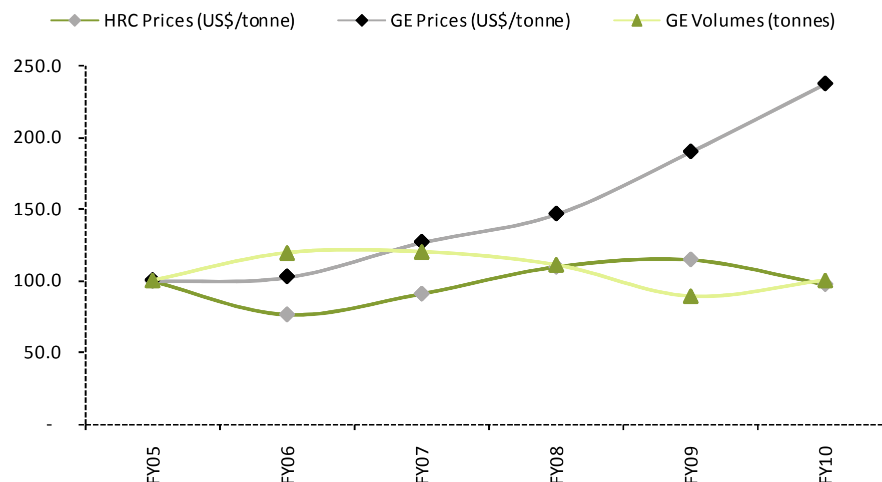
Source: World Steel Association, Industry, Quant Global Research

The pricing power enjoyed by the GE industry is high due to the consolidated nature of the industry. There are only eight large producers of GE globally, with the top two controlling about 47% of the market share

The pricing power enjoyed by the GE industry is high due to the consolidated nature of the industry. There are only eight large producers of GE globally, with the top two controlling about 47% of the market share. India has emerged as a strong force, with HEG and Graphite India (GRIL IN, CMP: Rs93, Not rated) together controlling 15% of the world market. We believe this has helped GE producers to maintain margins despite significant increases in needle coke prices, a major raw material. Passing on the increase in raw material costs becomes easier as it does not affect the cost structure of a steel manufacturer, in our opinion.

Realisations immune to steel prices although volumes maintain close correlation

Exhibit 7: GE realisations have increased despite lower volumes and lower utilization rates over FY05-10



Note: Numbers indexed to 100 at 2005

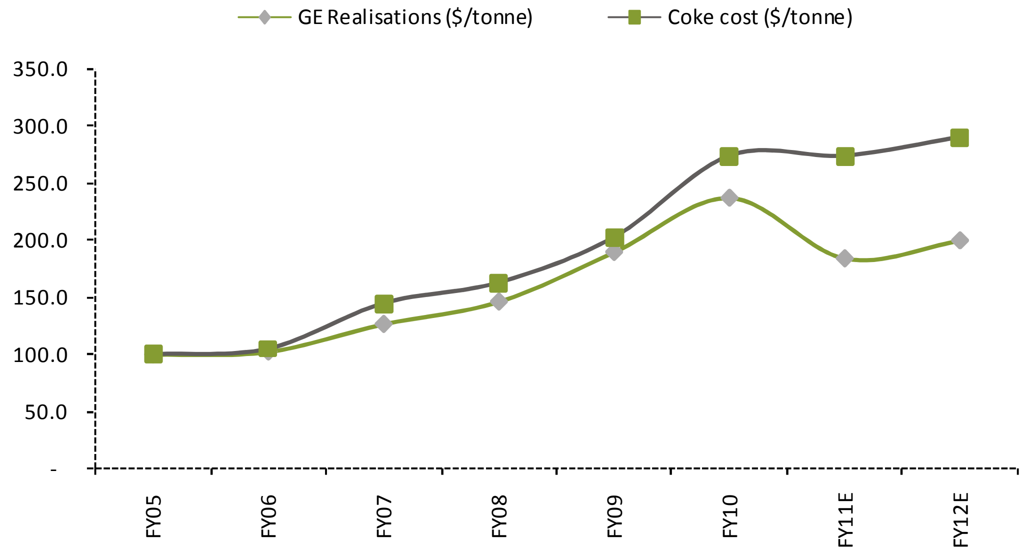
Source: World Steel Association, Bloomberg, Company data, Quant Global Research

GE realisations have been on a strong uptrend since 2005 and reached record levels of more than US$5,000 per tonne in FY10, as per HEG management. These high realisations persisted despite muted steel prices as most global GE majors resorted to production cuts, thereby reducing volumes and capacity utilization rates. The costs of needle coke, the key raw material, were also on an increasing trend and were passed on easily to end-users due to the small proportion of GE costs in total costs of a steel manufacturer and the consolidated nature of the GE industry.

Assured raw material supplies remain a concern

A major raw material for UHP-grade GEs is needle coke, a special variety of coke and a derivative of crude oil manufactured by just four players globally, with Conoco Phillips (COP US, Not rated) controlling 60% of the global needle coke market, as per press reports. Capacity utilization rates for the GE industry tend to be lower, owing to non-availability of needle coke in some cases. Against current GE capacity of around 0.94 mn tonnes, needle coke capacity currently is around 0.80 mn tonnes, according to press reports. A tonne of needle coke is required to produce a tonne of GE. With the tight supply scenario, we believe this shortage will keep needle coke prices high and further price increases can hamper margins of GE players (needle coke contracts are set on a yearly basis and after a sizeable price increase in 2009, they have been kept at similar levels in 2010).

Exhibit 8: GE realisations increasing at a slower pace than needle coke prices



Note: Numbers indexed to 100 at 2005

Source: World Steel Association, Bloomberg, Company data, Quant Global Research estimates

Most GE players try to reduce availability on outside power

Indian manufacturers have been gradually grabbing market share from global majors by providing high quality products at lower prices and maintaining margins, primarily due to lower labour and freight costs

Power, the second-biggest cost component after needle coke, accounts for 13-20% of total costs, is another determinant of profitability for GE players. The GE manufacturing process is power intensive and requires 5,000-6,000 kwh of power for producing one tonne of GE. Therefore, most companies are trying to reduce this cost by setting up captive power capabilities. Captive power is cheaper and players can bank on a ready supply of power to boost production.

Indian players to continue to grab market share from global peers due to cost advantages

In an industry where prices are determined on a global level with no significant product differentiation, higher volumes leading to better utilization rates remain key drivers of profitability. Although fixed costs can be reduced to an extent by individual players by increasing efficiency, capacity utilization tends to be the big differentiator as far as profitability is concerned. The plant capacity utilisation of Indian players has been higher than global peers on account of lower cost structures. Indian manufacturers have been gradually grabbing market share from global majors by providing quality products at lower prices and maintaining margins, primarily due to lower labour and freight costs.

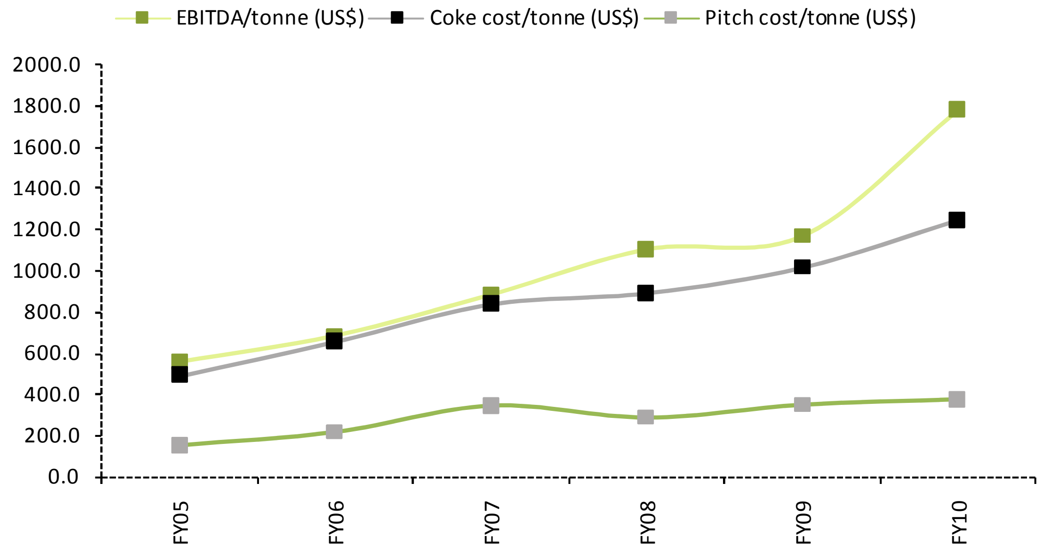
Niche player set to gain from steel recovery

We believe HEG is an attractive play on the GE industry, expected to benefit by the recovery in the steel cycle. A steady improvement in utilization levels based on increased capacity with stable margins is likely to result in steady earnings growth even with muted realizations. The company's focus on cost controls and assuring raw materials & power supplies may lead to stable operating margins and higher capacity utilization rates.

Company increases profitability despite increasing needle coke prices by passing on input cost increases

Exhibit 9: Margins have increased at a higher pace than RM prices in the past five years

Margins on a per tonne basis in fact, have shown a sharper increase than raw material prices as HEG was able to pass on raw material price increases to end-users while improving efficiency



Source: Company data, Quant Global Research

The company has been maintaining margins over 20% over the past five years despite a continuous increase in coke prices, its key raw material. Margins on a per tonne basis have shown a sharper increase than raw material prices as the company was able to pass on input cost increases while increasing efficiency at the same time. Although record margins attained in FY10 are not sustainable, in our view, because realisations are high and margins came on very thin volumes as capacity utilization rates dropped below the 70% level. We believe margins will come under pressure as realisations correct and raw material prices remain high due to supply shortages. HEG should be able to sustain operating margins in the range of 24-26% over the next few years, a decline of about 400-600bp from the 30% level seen in FY10.

Exhibit 10: Operating profit growth outpaces realisation growth

	FY05	FY06	FY07	FY08	FY09	FY10	FY11E	FY12E
Realisation/tonne (US$)	2335.2	2393.3	2957.8	3416.1	4429.0	5535.2	4298.4	4665.4
% change		2.5%	23.6%	15.5%	29.7%	25.0%	-22.3%	8.5%
EBITDA/tonne (US$)	552.7	680.6	881.1	1101.2	1167.2	1784.4	1097.0	1257.0
% change		23.1%	29.5%	25.0%	6.0%	52.9%	-38.5%	14.6%

Source: Company data, Quant Global Research estimates

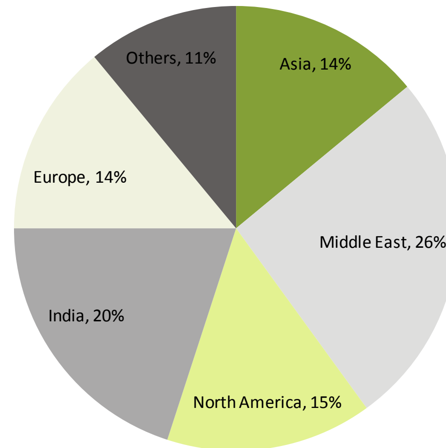
Captive power and merchant selling pushes up topline and bottomline

The company has 77 MW of captive power capacity, which meet its power requirements in the GE manufacturing process and also provides an additional stream of revenue by way of merchant selling of excess power. The company's power division comprises two thermal power plants with combined capacity of 64 MW and a hydro power plant with 13-MW capacity. HEG sold about a third of its power in FY10, but this is expected to come down to just 5% by FY12 as new 14,000 tonne capacity gets commissioned. Its power revenue in FY10 was Rs680 mn, which we expect to decline to Rs400 mn in FY11 and Rs200 mn in FY12 as most power generated is consumed internally.

Sales mix to remain focussed on exports

HEG derives more than 80% of total revenue from exports, with a clientele of more than 100 customers in over 30 countries. Key global customers include Arcelor Mittal (ARCELOR LX, Not rated), Nucor (NUE US, Not rated), Posco (005490 KS, Not rated). This diversified client base reduces client concentration risk to a large extent, in our view. The company has got its UHP-grade GE certified by these players, and, therefore, finds it easy to sell its products to new customers without any quality issues. But such a geographical base needs active forex management by the company and leaves it prone to currency volatility risk, we believe. As it imports all of its needle coke from outside India, those imports act a natural hedge against HEG's currency risk on exports to an extent, in our view.

Exhibit 11: Well-diversified market increases HEG's ability to survive regional shocks (FY10)



Source: World Steel Association, Industry, Quant Global Research

Increasing realisations expected to cool down after hitting record highs

Prices reach a high of more than US$8,000/tonne in some contracts in FY10 and average around US$5,500/tonne for the whole year. For FY11, we expect at least a 10% reduction in average realisations as prices drop to more sustainable levels

HEG has been able to increase realizations consistently for the past six years as it has been able to pass on the price increase in needle coke on to steel manufacturers. Aggressive price increases for GE have not negatively affected demand as it constitutes only about 2% of total costs for a steel producer, and as GE is a critical component in the EAF process. Volumes have decreased in the past two years as a result of EAF capacity shutdowns globally, but GE prices did not drop due to the oligopolistic nature of the global GE industry, which made up for lost volumes by charging higher prices. Prices touched a high of more than US$8,000/tonne in some contracts in FY10 and averaged around US$5,500/tonne for the whole year. For FY11, we expect at least a 10% reduction in average realisations as prices come down to more sustainable levels. But HEG should more than make up for the loss in realisations by a substantial pick-up in volumes. Realisations are also protected by short-term volatility as customers enter into short-term purchase contracts of three to six months duration.

Exhibit 12: Volume, realisation and cost assumptions

	2005	2006	2007	2008	2009	2010	2011E	2012E
HEG Volumes (tonnes)	31,210	34,530	42,160	52,366	46,674	45,677	55,110	59,400
HEG Realisations (Rs/tonne)	112,089	114,880	141,976	163,975	212,594	222,182	197,725	207,612
HEG Realisatiions (US$/tonne)	2,335	2,393	2,958	3,416	4,429	5,535	4,298	4,665
Coke Costs (US$/tonne)	490	514	710	799	995	1,346	1,346	1,427
YoY incr in Realizations		2.5%	23.6%	15.5%	29.7%	25.0%	-22.3%	8.5%
YoY incr in Coke Costs		4.8%	38.2%	12.6%	24.5%	35.2%	0.0%	6.0%

Source: Company data, Quant Global Research estimates

Lower manpower costs than global peers give better margins

HEG's relatively low labour costs give it significant advantage over global peers. The top two global players — SGL and Graftech — have plants across Europe and North America where labour costs are significantly higher. For the past three years, manpower costs for HEG have been below 4% of sales, while it is in the range of 15-20% for the top two global players. In the past, this lower cost has helped HEG gain market share, but as realisation differences dissipate across global players, HEG can use this cost advantage to keep margins higher than global peers, we believe.

Single location offers economies of scale and reduces fixed costs

Operating at a single location helps HEG save on fixed costs versus higher costs associated with operating plants at multiple sites. The company also saves on freight and manpower costs, is likely to help it operate at above-industry average margins

SGL Carbon, the biggest global player, has 39 plants across Europe, North America and Asia with total capacity of 220,000 tonnes. Graftech also has five plants in Europe and Latin America with similar capacity, as per the company website. HEG has capacity of 66,000 tonnes and is increasing it to 80,000 MT at the same facility in Mandideep near Bhopal, Madhya Pradesh. Its thermal power plant is based at the same site while the hydro power plant is about 70 km away at Tawa Nagar, Madhya Pradesh. In our view, this helps HEG save on fixed costs versus higher costs involved in operating plants at multiple sites and also saves on freight and manpower costs, which is likely to help it operate at above-industry average margins in the range of 25-28%.

Exhibit 13: HEG scores over peers on the operating performance level due to low labour and freight costs

Operating margins (%)	FY08	FY09	FY10
SGL Carbon	18.8	18.9	9
Graftech	22.5	27.6	14.9
Tokai Carbon	17.6	11.8	6.3
Showa Denko	7.4	2.6	-0.7
Graphite India	17.7	21.7	26
HEG	29.1	25.7	30

Source: Bloomberg, Quant Global Research

Upcoming capacities will prepare HEG for the next upswing in demand, in our view

Exhibit 14: HEG expected to gradually increase its global market share by FY12E

	2005	2006	2007	2008	2009	2010E	2011E	2012E
HEG Volumes (mts)	31,210	34,530	42,160	52,366	46,674	40,000	55,100	59,400
Global Market share	4.3%	4.0%	4.8%	6.5%	7.2%	5.5%	7.0%	7.5%
HEG Capacity (mts)	33,600	52,000	52,000	52,000	60,000	66,000	66,000	80,000
Capacity Utilisation (%)	92.9%	66.4%	81.1%	100.7%	77.8%	60.6%	83.5%	74.3%

Source: Press reports, Quant Global Research estimates

HEG has been expanding capacity in a phased manner at its Mandideep site in the past few years. According to guidance, capacity is slated to grow to 80,000 tonnes by mid-FY12, which will increase its global market share from the current 5.5% to about 7.5% in FY12. With the steel cycle showing signs of a recovery, HEG should benefit in terms of higher volumes post the commissioning of new capacity. HEG is one of very few players who are expanding capacity currently as global players are still operating at utilization rates of between 50-60%. But HEG has had a much higher utilization level for some time, owing to its cost leadership, and, therefore, it expects utilization levels of more than 75% by FY12-FY13.

Subsidiary listing can unlock further value

Assuming a 2x P/B and giving a 20% holding company discount, the fair value of HEG's stake in BEL comes out to be Rs42/share, which can go up further once the company makes significant progress in its new projects

HEG holds a 25.8% stake in group company Bhilwara Energy (BEL) (Not listed). BEL, incorporated in 2006, is the flagship entity in the power sector business of the LNJ Bhilwara Group and acts as the principal holding company for its power ventures. The company has guided for 2500 MW of power generation capacity by 2017 in the renewable energy sector. It currently has operational capacity of 86 MW and recently commissioned a 192 MW hydro power project. BEL holds a 51% equity stake in Malana Power Company (Not listed) based in Kullu, Himachal Pradesh, a JV with SN Power, Norway (Not listed). It holds 44.9% of AD Hydro Power based in Manali, Himachal Pradesh, indirectly, since MPC holds an 88% stake in AD Hydro Power.

BEL recently raised Rs2.3bn, ie, US$50 mn (US$25mn each) by diluting a 10.8% stake to International Finance Corporation (IFC), Washington and India Clean Energy Fund to fund its power projects in India and Nepal. Post this dilution, HEG has a 25.8% stake in BEL valued at Rs5.37 bn or Rs126/share as per the stake sale price.

But due to insufficient information available on BEL financials, we have taken a conservative view and valued only two completed projects at 2x P/B. We have not ascribed any value to our other approved projects, which are still in the pre-construction stage. Assuming a 2x P/B and giving a 20% holding company discount, the fair value of HEG's stake in BEL comes out to be Rs42/share, which can go up further once the company makes significant progress in its new projects and launches an IPO.

Exhibit 15: A conservative valuation adds another Rs42/share on account of BEL investments

Bhilwara Energy (BEL) Details	Malana	AD Hydro
Current capacity (mw)	**86**	**192**
Capex cost (Rs mn)	3330.0	17000
Debt (Rs mn)	**0**	**11050**
Equity BV(Rs mn)	3330.0	5950
Share of BEL	**51%**	**44.9%**
P/BV Multiple (x)	2.0	2.0
Equity Value of BEL (Rs mn)	**3397**	**5341**
HEG Stake	25.6%	25.6%
Value (Rs mn)	**870**	**1367**
Holding Discount	20%	20%
Market value of HEG stake (Rs mn)	**696**	**1094**
Per share value (Rs)		**42.0**

Source: Company website, Quant Global Research estimates

Expected growth from FY12 supports further upside

Although we expect profitability to cool off as realisations are expected to decline, we believe the company will maintain margins of around 24-26% as it gains from lower fixed costs due to a single site advantage, and lower power and manpower costs

HEG has demonstrated consistent growth in revenues and profitability over the past five years, led by gradual capacity increases leading up to rising volumes. The company has also been able to maintain profitability due to its cost reduction initiatives and higher efficiency. The business remains working capital-intensive, which HEG has been able to manage quite well, in our view. After increasing significantly in FY09, working capital trends return to normal in FY10.

Exhibit 16: Financials indicate a recovery from FY12E

	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY11E	FY12E
Margins (%)	22.4%	18.0%	21.4%	21.7%	29.1%	25.4%	30.0%	24.7%	27.9%
Net Debt (Rs mn)	2371	4345	6745	7846	6686	8757	7259	8036	8051
Inventory days	138	121	223	187	181	288	210	220	210
Receivable days	86	81	81	85	108	114	115	135	130
Payable days	147	163	82	66	93	49	45	45	45
WC/Sales (%)	53%	38%	65%	57%	66%	72%	65%	69%	65%
WC Cycle (days)	77	39	222	206	195	353	280	280	280

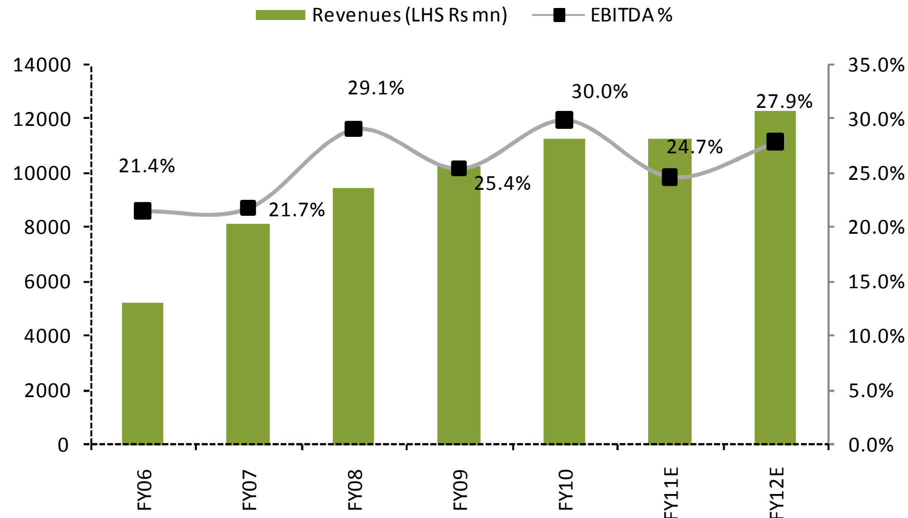
Source: Company data, Quant Global Research estimates

Steady top-line growth in the past, future growth to be driven by higher volumes

HEG has reported a 20% CAGR in revenue during FY10-FY12, on account of a steady increase in realisation until FY08, although FY09-FY10 has seen a dip in volumes. But, we expect HEG to post an 11% CAGR in revenue during FY10-FY13E, which would primarily be driven by an 18% CAGR in volumes over the same period, although we expect realisations to dip from current levels. We expect HEG to commission its new facility by FY12 and project capacity utilisation rates to go above 75% on expanded capacity in FY13E.

Strong historical profitability, some dip expected from record FY10 numbers

Exhibit 17: EBITDA margins to improve from FY12 after dipping in FY11



Source: Company data, Quant Global Research estimates

HEG has maintained healthy operating margins in the range of 25-30% for the past three years and achieved record margins of 30.3% in FY10. Although we expect profitability to cool off as realisations are expected to decline, the company is likely to maintain margins of around 24-26% as it gains from lower fixed costs due to a single site advantage, and lower power and manpower costs. The company has historically been able to pass on any raw material price increases so the risk of erosion in profitability on account of higher needle coke prices is mitigated to an extent.

Strong balance sheet coupled with robust cashflow generation

HEG has a strong balance sheet with a debt-equity ratio of 1.05% as at the end of FY10, with Rs4,798 mn in short-term debt to fund its working capital needs. The company expects to complete capacity expansion primarily through internal accruals with minimal amount of fresh debt. We expect the company's debt-equity ratio to drop to 0.8% by FY12E after capex completion. In our view, its cashflow will also improve after capex is completed in FY12, with strong free cashflow expected from FY12.

HEG looks reasonably priced compared to global peers

We believe HEG deserves to trade at a premium to global peers on account of a higher margin profile and lower cost structure of its core business. The value of its investments also provides significant downside protection. It has maintained a strong financial profile over the past five years, and although FY11 is expected to be a poor year in terms of financial performance, we expect valuations to return to premium levels once profitability stabilises and capacity utilisation levels return to historical levels of 80%-plus.

Exhibit 18: Stock looks inexpensive despite better profitability

Company name	Ticker	Mkt Cap (US$ mn)	Rating	Net Revenues (US$ mn) 2011E	2012E
GrafTech International	GTI US	2,262	NR	1,223	1,331
SGL Carbon	SGL GY	2,388	NR	2,007	2,222
Tokai Carbon Co	5301 JP	1,243	NR	1,406	1,425
Showa Denko	4004 JP	3,137	NR	10,090	10,210
Graphite India	GRIL IN	372	NR	332	391
HEG	HEG IN	234	BUY	247	269

Company name	EBITDA margins		Return on Equity (%)		Price to earnings (X)		EV to EBITDA (X)	
	2011E	2012E	2011E	2012E	2011E	2012E	2011E	2012E
GrafTech International	26.0%	23.4%	-	-	12.8	10.9	7.4	-
SGL Carbon	16.7%	19.4%	10.8	14.7	20.5	13.6	8.4	6.5
Tokai Carbon Co	21.3%	20.0%	8.4	7.9	12.8	11.0	4.2	-
Showa Denko	12.1%	13.0%	8.5	9.7	12.1	10.2	5.8	5.2
Graphite India	23.7%	23.2%	15.8	15.1	7.4	6.9	4.8	4.2
HEG	26.4%	27.9%	12.8	15.5	10.7	7.8	6.8	5.6

Note: pricing as on 30 November 2010; Source: Bloomberg consensus estimates, Quant Global Research estimates

First half performance was poor but improvement expected from 2H FY11

We expect a gradual recovery in operational performance, especially EBITDA margins, over the next 4-6 quarters

HEG's results for 1H FY11 were disappointing, due to lower capacity utilisation in 1Q and underperformance of its power division due to maintenance issues at its thermal power plant and lower merchant prices. Realisations for GE have also declined sharply to sustainable levels of about Rs197,000 per tonne in 1H FY11 from unusually high levels Rs222,182 per tonne witnessed in the past year. Raw material prices have increased from 37.4% of sales in 1H FY10 to 42.4% of sales in 1H FY11 on account of lag effect of a change in crude oil prices. But with input prices stabilising and realisations expected to inch up from current levels supported by higher utilisation rates, we expect a gradual recovery in operational performance, especially EBITDA margins, over the next 4-6 quarters.

Exhibit 19: Poor 1H FY11 on account of lag effect of lower realisations and high input costs

YE March (Rs mn)	2Q FY11	2Q FY10	1Q FY11	Y-y (%)	Q-q (%)	1H FY11	1H FY10	Y-y (%)
Net sales	**2,996**	**2,731**	**2,221**	**9.7**	**34.9**	**5,217**	**5,053**	**3.2**
Raw materials	1,328	1,124	882	18.1	50.6	2,210	1,888	17.0
(% of sales)	44.3%	41.2%	39.7%			42.4%	37.4%	
Employee cost	105	99	102	6.4	2.9	207	195	6.2
(% of sales)	3.5%	3.6%	4.6%			4.0%	3.9%	
Other expenses	962	582	667	65.4	44.2	1,629	1,197	36.0
(% of sales)	32.1%	21.3%	30.0%			31.2%	23.7%	
EBITDA	**601**	**927**	**570**	**(35.2)**	**5.4**	**1,171**	**1,773**	**(33.9)**
EBITDA %	20.1%	33.9%	25.7%			22.4%	35.1%	
Other income	44.0	8.9	20.0			64.0	24.5	161.2
PBIDT	**645**	**936**	**590**	**(31.1)**	**9.3**	**1,235**	**1,797**	**(31.3)**
Depreciation	136.0	132	155.0			291.0	254	14.7
Interest	86.0	162	91.0			177.0	340	(47.9)
PBT	**423**	**642**	**344**	**(34.1)**	**23.0**	**767**	**1,204**	**(36.3)**
Tax	127	211	80			207	354	(41.5)
ETR%	30.0%	32.9%	23.3%			27.0%	29.4%	
Adjusted PAT	**296**	**431**	**264**	**(31.3)**	**12.1**	**560**	**850**	**(34.1)**
PAT margin	9.9%	15.8%	11.9%			10.7%	16.8%	
Extraordinary income/ (exp.)		11						
Reported PAT	**296**	**442**	**264**	**(33.1)**	**12.1**	**560**	**850**	**(34.1)**
No. of shares (mn)	42.9	41.0	42.9			42.9	41.0	
Adj EPS (Rs)	**6.9**	**10.5**	**6.2**	**(34.3)**	**12.1**	**13.1**	**20.7**	**(36.9)**

Source: Company data, Quant Global Research

Valuations

We value the core business at 5.8x FY12E EV/EBITDA, which will be a discount of 10% to its five-year average of one-year forward EV/EBITDA.

We initiate coverage of HEG with a BUY rating and a 12-month price target of Rs324, implying 22% potential upside from current levels. We value the core business at 5.8x FY12E EV/EBITDA, which will be a discount of 10% to its five-year average of one-year forward EV/EBITDA, given subdued earnings and return ratios in the near term. We note that ROCE of 15.5% in FY12E is slightly better than the average ROCE of the past five years. We ascribe a value of Rs42/share for the BEL stake and value the core business at Rs282/share, arriving at our target price of Rs324. We expect the stock to re-rate once capacity utilisation starts showing a positive trend and realisations stabilise at current levels. Another factor, which could unlock further value for HEG shareholders, is the listing of group company, BEL.

Historically, HEG has traded at a five-year average forward EV/EBITDA of 6.5x, and we expect it to trend toward these levels once raw material concerns recede and realisations stabilise. We estimate HEG's ROCE to gradually come back to historical levels of around 15.5% from FY12. The company should continue to remain FCF positive as it is estimated to generate adequate internal accruals to fund its Rs2,750-mn capex with minimal debt.

Exhibit 20: Target EV/EBITDA presents 22% potential upside from current levels

FY12E EBITDA (Rs mn)	**3436**
Multiple (x)	5.8
EV (Rs mn)	**20086**
Gross Debt (Rs mn)	8312
Cash (Rs mn)	**257**
Equity value (Rs mn)	12031
No of shares (mn)	**42.6**
Per share value (Rs)	282
BEL Investment value (Rs per share)	**42.0**
Target Price (Rs)	**324**

Source: Quant Global Research estimates

Exhibit 21: Target EV/EBITDA at a 10% discount to the five-year average

Source: Bloomberg, Quant Global Research estimates

Key risks and concerns

We do expect needle coke supply shortage to continue albeit there is no significant increase in needle coke prices during FY11-12. With an improving demand outlook, GE producers should be able to maintain margins by passing on any price increases to end users

- Pricing power for GE manufacturers has deteriorated and moved to spot pricing for a few months from annual contract-based pricing earlier on account of higher capacities globally and a big decline in GE demand as a result of the shutdown of a number of EAF steel capacities. But, with steel demand picking up again and no significant capacity expansions, we expect some sort of pricing power to return to GE manufacturers.
- Availability and pricing of needle coke, the chief major raw material used in steel manufacturing, has always been an issue for GE producers, with Conoco Philips controlling more than half of the market share. Needle coke producers have greater pricing power than GE producers due to supply shortage, and, therefore, maintain annual pricing contracts. We do expect this supply shortage to continue albeit there is no significant increase in needle coke prices during FY11-12. With an improving demand outlook, GE producers should be able to maintain margins by passing on any price increases to end users.
- Excess currency volatility will remain a risk for HEG as more than 80% of total revenue comes from overseas, although the company does actively hedge its foreign exchange risk.
- Emerging competition from Chinese manufacturers can also pose a risk in the longer run if they are able to gain access to advanced technology for manufacturing high grade UHP electrodes. Currently, most Chinese producers do not have the required know-how and technology, in our view.

Company Background

HEG, a flagship company of the LNJ Bhilwara group, is Asia's leading GE manufacturer and exporter. The company was set up in 1977 at Mandideep near Bhopal in Madhya Pradesh, and has graphite manufacturing technology, which was originally sourced from 'SERS' – a subsidiary of Pechiney, France. Currently, the company has interests in GE and power generation, with installed capacity of 66,000 MT of UHP GE and 77 MW of power, respectively. After the exit of its French partner, Pechiney in 1992, the company started to grow and expand capacity rapidly. Since 1990s, HEG has invested more than Rs8 bn in capex and has increased its GE capacity from 10,000 tonnes to 66,000 tonnes and also set up its captive power base to save on power costs. The company exports about 80% of its production overseas to more than 100 customers across 30 countries. It has an established global customer base, comprising steel majors like Arcelor Mittal, Nucor, Posco and Tata Steel.

Graphite electrodes are primarily consumed by the steel industry, ie, steel mills which manufacture steel through the electric arc furnace (EAF) route. Global consolidation in the GE industry coupled with an unprecedented worldwide boom in the steel industry ensures a strong demand pull for the industry. However, the sustained upsurge in prices of key raw materials and availability issues, ie, needle coke has capped growth of GE manufacturers. To counter this, HEG has unfolded plans to expand its GE capacity to 80,000 tonnes by FY12. Also, to emerge as a focused player, the company had disposed off its steelmaking division in August 2007 for Rs1.2 bn. The company also holds a 25.8% stake in the unlisted power entity of the group, Bhilwara Energy.

Financial Summary

Exhibit 22: HEG, summary financials, 2009-12E, March fiscal year-end (Rs mn)

Income Statement	FY09	FY10	FY11E	FY12E
Net revenues	**10,257**	**11,314**	**11,283**	**12,332**
Expenditure				
Raw materials	2,124	4,806	4,792	5,165
Employee expenses	371	390	434	486
Other expenditure	5,177	2,728	3,276	3,244
EBITDA	**2,586**	**3,390**	**2,782**	**3,436**
Non-operating income	140	150	85	100
Depreciation	456	524	580	700
EBIT	2,270	3,016	2,286	2,837
Interest expense	670	593	688	733
Adjusted pre-tax profits	1,601	2,423	1,598	2,104
Unusual or infrequent items	13	-	-	-
Reported pre-tax profits	**1,614**	**2,423**	**1,598**	**2,104**
Taxes	544	713	495	652
Reported net income	**1,070**	**1,711**	**1,103**	**1,451**
Adjusted net income	**1,070**	**1,711**	**1,103**	**1,451**
EPS (Rs), Fully diluted	**25.1**	**39.9**	**25.7**	**33.9**
Year-end shares outstanding (mn)	42.9	42.9	42.9	42.9
Year-end Fully Diluted shares (mn	42.9	42.9	42.9	42.9
Growth numbers (%)				
Yoy growth in revenues	8.3	10.3	(0.3)	9.3
Yoy growth in ebitda	(5.5)	29.6	(17.9)	23.5
Yoy growth in net income	(26.9)	59.9	(35.5)	31.6

Ratios (%)	FY09	FY10	FY11E	FY12E
Effective tax rate	33.7	29.4	31.0	31.0
EBITDA margin	25.4	30.0	24.7	27.9
PAT margin	10.4	15.1	9.8	11.8
ROACE	15.8	18.9	13.4	15.5
ROAE	18.9	24.0	12.8	15.5
Gross debt to equity (x)	1.5	0.9	0.9	0.8
Total asset turnover ratio	1.5	1.4	1.6	1.5
Inventory turnover ratio (x)	2.5	3.3	3.1	3.3
Debtors turnover ratio (x)	3.1	2.6	2.7	2.7
PE Ratio (x)	10.6	6.6	10.3	7.8
Per share numbers (Rs)				
Reported earnings	25.1	39.9	25.7	33.9
Cash earnings	35.6	52.2	39.3	50.2
Free cash	(22.2)	39.8	(3.5)	10.1
Book Value	138.8	194.3	209.1	228.8
Valuations (x)				
Price to diluted earningas	10.6	6.6	10.3	7.8
EV / EBITDA	7.5	5.5	6.9	5.6
Price to book	1.9	1.4	1.3	1.2

Balance sheet	FY09	FY10	FY11E	FY12E
Equity capital	426	426	429	429
Reserves and surplus	5,524	7,899	8,531	9,375
Total Equity	**5,949**	**8,325**	**8,960**	**9,803**
Deferred tax liability	**759**	**749**	**749**	**749**
Secured loans	8,820	7,308	7,983	8,312
Unsecured loans	-	-	-	-
Total borrowings	**8,820**	**7,308**	**7,983**	**8,312**
Total capital	**15,529**	**16,382**	**17,692**	**18,864**
Cash	64	45	102	257
Inventory	4,097	3,428	3,622	3,737
Debtors	3,285	4,402	4,119	4,502
Other current assets	1,627	1,245	1,241	1,357
Total current assets	**9,073**	**9,121**	**9,085**	**9,853**
Current liabilities	1,400	1,588	1,212	1,408
Net Current Assets	**7,674**	**7,533**	**7,873**	**8,445**
Gross block	8,535	9,946	9,946	13,277
Less: cumulative depreciation	2,894	3,368	3,948	4,647
Capital WIP	1,342	581	2,131	100
Net block	**6,983**	**7,160**	**8,130**	**8,730**
Investments	835	1,690	1,690	1,690
Misc Exp.	38	(0)	(0)	(0)
Goodwill				
Total assets	**15,529**	**16,382**	**17,692**	**18,864**
	-	0.00	0.00	0.00

Cash flow statement	FY09	FY10	FY11E	FY12E
Cash flow from operating activity				
PBT	1,614	2,423	1,598	2,104
Add: Depreciation	456	524	580	700
Add: net interest	-	-	-	-
Less: taxes paid	(544)	(713)	(495)	(652)
Add: other adjustments	-	-	-	-
Less: working capital changes	(1,116)	122	(283)	(417)
Total operating cash flows	**410**	**2,357**	**1,399**	**1,734**
Cash flow from investing activity				
Capital expenditure	(1,362)	(650)	(1,550)	(1,300)
Change in investments	(532)	(854)	-	-
Investment in companies	-	-	-	-
Flows in others	-	-	-	-
Total investing cash flow	**(1,894)**	**(1,505)**	**(1,550)**	**(1,300)**
Cash flow from financing activity				
Share issuances	(18)	0	2	-
Change in borrowings	1,703	(1,512)	675	329
Changes in others	(248)	1,117	-	-
Dividend paid	(321)	(476)	(471)	(608)
Interest payment	-	-	-	-
Total financing cash flow	**1,116**	**(871)**	**207**	**(279)**
Net change in cash	**(368)**	**(19)**	**57**	**156**
Opening cash & CE	432	64	45	102
Closing cash & CE	64	45	102	257

Source: Company data, Quant Global research estimates

Ratings and other definitions

Stock rating system

BUY. We expect the stock to deliver >15% absolute returns.
ACCUMULATE. We expect the stock to deliver 6-15% absolute returns.
REDUCE. We expect the stock to deliver +5% to -5% absolute returns.
SELL. We expect the stock to deliver negative absolute returns of >5%.
Not Rated (NR). We have no investment opinion on the stock.

Sector rating system

Overweight. We expect the sector to relatively outperform the Sensex.
Underweight. We expect the sector to relatively underperform the Sensex.
Neutral. We expect the sector to relatively perform in line with the Sensex.

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