HEG Ltd (HEG)

ICICI direct Research

CMP: ₹ 1,900 | Target: ₹ 2,420 (27%) | Target Period: 12 months | BUY

March 21, 2024

Conviction Pick

Pivotal player driving the green steel revolution ...

About stock: HEG is one of the leading graphite electrode manufacturers in India and is a key exporter with ~65%- 70% of production exported to global markets.

- It has the world's largest single site graphite electrode manufacturing plant of 100,000 tonne capacity in state of Madhya Pradesh.

Investment Rationale

- **Decarbonization, global shift towards EAF route; positive for HEG:** In the pursuit of decarbonization and lower the carbon footprint, global steel manufacturers are shifting towards Electric Arc Furnace (EAF) route of steel making, which emits ~75% less carbon vs. the traditional steelmaking method i.e. BOF (blast furnace) while also offering lower production costs and greater cost effectiveness. EAF share in total crude steel production (ex-China) has increased from ~44% in 2015 to ~50% in 2022 and is expected to further rise to ~55% in next few years. Moreover, by 2030, it is projected that more than ~170 million tons of EAF capacity (ex-China) will be added, resulting in incremental demand for graphite electrodes, an industrial consumable product utilized in EAF, by ~2 lakh tons vs. the present industry size of ~8 lakh tonne. HEG, one of the top 5 graphite electrodes producer globally, stands to benefit significantly from this shift towards green steel, with its largest single site plant boasting a capacity of 1 lakh tonne, including new capacity of 20,000 tonne. At HEG, on expanded base, we have built in capacity utilisation of ~75% for FY25E and ~82% for FY26E.

- **Promising prospect await in new venture- graphite anode (sunrise space):** Li-On batteries is the new sunrise sector catering to E-mobility space (Electric Vehicles) & stationary applications with demand pegged at ~150-160 GWh by 2030, resulting in ~1.5 lakh tons demand for graphite anode, a key component in lithium-ion cell. As government aims to localize significant segments of battery components, HEG aims to seize this opportunity by venturing into manufacturing of graphite anode. HEG is setting up a capacity of 20,000 tons of this material (catering to ~20 GWh of cell capacity) at a capex cost of ~₹1,700-1,800 crores with expected commissioning in H2FY26 and intended asset turnover of 1-1.1x, EBITDA margins of ~25%+ and RoCE of ~20%. With core expertise in processing needle coke for manufacturing graphite electrodes, this venture will offer VAP benefits to HEG and shall provide stability to its earrings profile, structurally positive in nature.

Rating and Target Price

- We have assigned **BUY** rating on HEG, on the back of structural demand drivers in place amid ongoing global shift towards EAF route of steelmaking, capacity expansion led volume growth in offering & graphite anode business.

- We assign a **target price of ₹ 2,420 to HEG** thereby valuing it on SoTP basis, i.e. 7.5x EV/EBITDA on core graphite electrode business, 2x P/B on equity investment in BEL and 1x CWIP to graphite anode business, all on FY26E

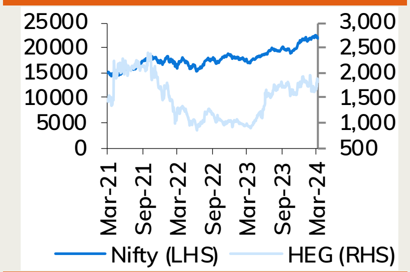
Particulars

Particulars	₹ crore
Market Cap	7,334
Debt (FY23)	741
Cash & Cash Eq.(FY23)	1,027
Enterprise Value	7,048
52 Week H / L (₹)	2011 / 918
Equity Capital (₹)	38.6 crore
Face Value	10

Shareholding pattern

	Mar-23	Jun-23	Sep-23	Dec-23
Promoter	55.8	55.8	55.8	55.8
FII	6.3	6.7	6.8	6.9
DII	6.3	7.4	7.2	8.9
Other	31.7	30.1	30.2	28.5

Price Chart



Recent Event & Key risks

- Reports muted performance in Q3FY24 amid structural drivers for long term profitable growth

- Key Risk: (i) delay in capacity shift towards EAF route, impacting demand (ii) higher-than-expected rise in needle coke price

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Key Financial Summary

(₹ Crore)	FY20	FY21	FY22	FY23	5-year CAGR (FY18-23)	FY24E	FY25E	FY26E	3-year CAGR (FY23-26E)
Net Sales	2,149.0	1,256.2	2,201.6	2,467.2	-2.0%	2,396.3	2,861.6	3,731.3	14.8%
Reported EBITDA	-5.8	-59.1	527.2	619.7	-18.0%	417.5	525.2	1,009.1	17.7%
Adjusted PAT	53.4	-25.3	390.6	455.5	-16.0%	228.1	282.5	629.7	11.4%
Adjusted EPS (₹)	13.8	(6.5)	101.2	118.0		59.1	73.2	163.1	
EV/EBITDA (x)	NA	NA	12.7	11.4		17.0	14.9	7.9	
RoCE (%)	1.6	(0.5)	11.9	13.0		7.0	7.6	14.8	
RoE (%)	1.6	-0.7	10.3	11.2		5.4	6.4	13.1	

Source: Company, ICICI Direct Research

Company Background

HEG Ltd is a prominent entity within the LNJ Bhilwara group which has a diverse portfolio spanning across IT enabled services, power generation, graphite electrodes and textile. HEG was established in 1977 and one of the world's leading producers of graphite electrode, specializing in sophisticated UHP (Ultra High Power) Electrodes. It operates the world's largest single site graphite electrode plant under one roof with a capacity of 80,000 tons per annum for a long time. Recently expanded to 100,000 tons, it now ranks as the third largest producer in the western world. HEG export ~65% to 70% of its production to about 35 countries for over two decades, serving major steel companies globally such as Arcelor Mittal, Emirates Steel, CELSA Group, POSCO, Acerinox Europia, Nucor Group, Tata Steel, Steel Authority of India Ltd (SAIL), Jindal Steel and Power Ltd (JSPL) etc. Additionally, it operates captive power plants of ~80 MW capacity, comprising of two thermal plants and one hydro power plants.

Q3FY24 Concall Key Takeaways

- In line with decarbonization efforts, more than 90 million tons of new Greenfield capacities have been announced, with US and EU leading the capacity expansion.

- Out of the total announced capacity, 9 to 10 million tons is already in operations, while another 30 million tons is expected to be operational in FY25, and rest will be in post FY25.

- The commercial production from the expanded capacity of 20,000 tons did not hit the market due to long duration of production cycle of the product. It will start selling electrodes from the expanded capacity by Q4FY24.

-The company expects margin pressure to continue in next two to three quarters. However, it expects the demand to come back by H2 of 2024.

Exhibit 1: HEG – Unique strengths

HEG Limited – Unique Strengths

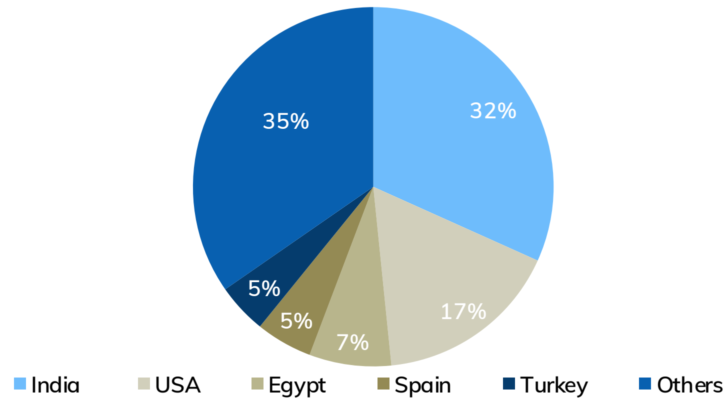
- Has been World's Largest Single Site Graphite Electrode Plant under one roof with a capacity of 80,000 tons pa for a long time.
- Recently completed expansion to 100,000 tons to become the third largest producer of Graphite electrodes in the western world.
- Except ours, no additional capacity announced by any other company in the western world.
- Exporting approx. 65 - 70% of its production to about 35 countries around the world consistently since more than 20 years
- Diversified customer base - supplying large portion of production to top 20 steel companies of the world
- Captive power generation capacity of around 80 mw (Two thermal power plants & One hydro power plant)

Source: Company, ICICI Direct Research

Exhibit 2: HEG-Expanded plant at 100,000 tons- Appearing on the horizon

Source: Company, ICICI Direct Research

Exhibit 3: HEG-Sales, Geographical break-up



Source: Company, ICICI Direct Research

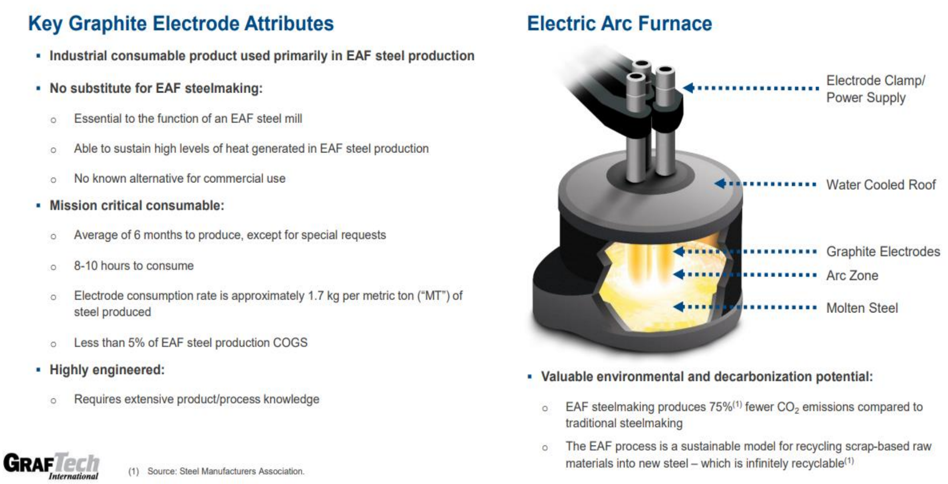
In FY23, Export sales accounted for ~70% of HEG's revenue, while domestic market contributed the remaining ~30%. Notably, USA is the top contributor to company's exports followed by Egypt, Spain, Turkey among others

What are Graphite Electrodes?

Graphite electrodes serve as vital consumables in EAF steel production, one of the primary methods of steel production. **UHP graphite electrodes are consumed at a rate of ~1.7-1.8 kilograms per metric tonne of steel production in EAF facilities**. Electrodes act as conductors of electricity in the furnace, generating sufficient heat to melt scrap metal or other raw materials used to produce steel. Despite **constituting less than 5% of total steel production costs**, graphite electrodes are indispensable due to their unique ability to sustain high levels of heat & electrical conductivity in EAFs.

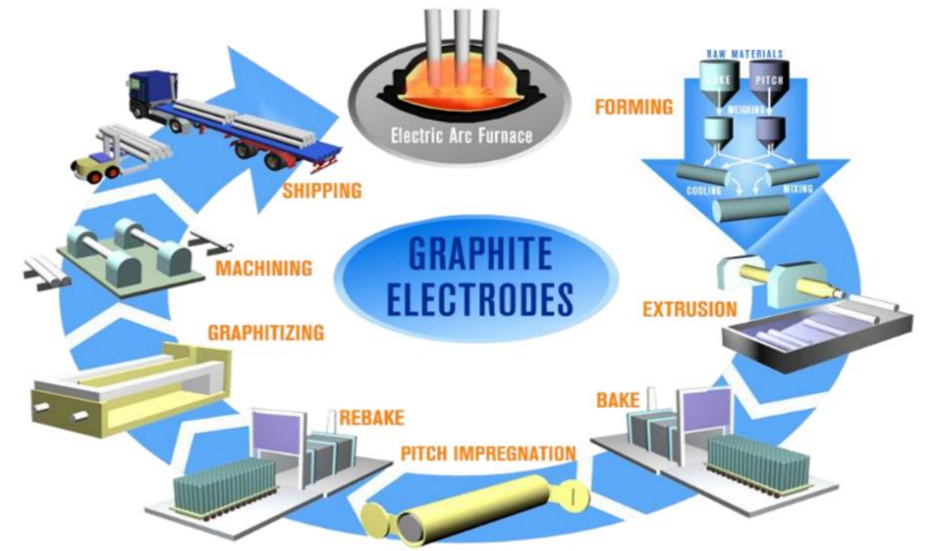
As per Industry sources, present Graphite Electrode capacity ex-China is pegged at ~8 lakh tonnes with industry fairly consolidated. It is constituted by five major players namely: Graftech, Resonac Holdings Corp. (erst. Showa Denko), Graphite India Ltd, Tokai Carbon & HEG Ltd. These players together hold ~80% of global (ex-China) graphite electrode production capacity.

Exhibit 4: Graphite Electrodes- Critical Consumable for EAF Steel Production



Source: Graftech, ICICI Direct Research

Exhibit 5: Graphite Electrodes- Manufacturing Process



Source: Graftech, ICICI Direct Research

Exhibit 6: Carbon Emission and Energy Intensity (BF vs. EAF Route)

2021-2022 CO2 emissions and energy intensity

	CO2 emissions intensity by production route tonnes CO2 per tonne of crude steel cast		Energy intensity by production route GJ per tonne of crude steel cast	
	2021	2022	2021	2022
Global average	1.91	1.91	21.02	20.99
BF-BOF	2.33	2.33	24.13	23.98
Scrap-EAF	0.66	0.68	10.07	10.20
DRI-EAF*	1.39	1.37	22.58	22.37

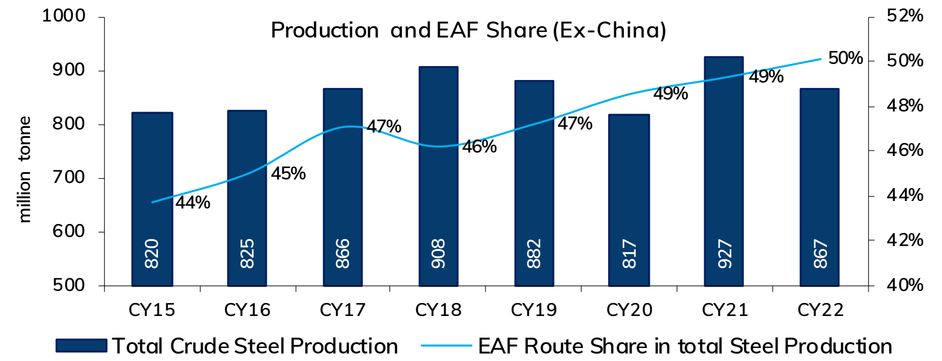
Source: World Steel Association, ICICI Direct Research

Investment Rationale

Growing adoption of the EAF Route of Steel Making bodes well for HEG

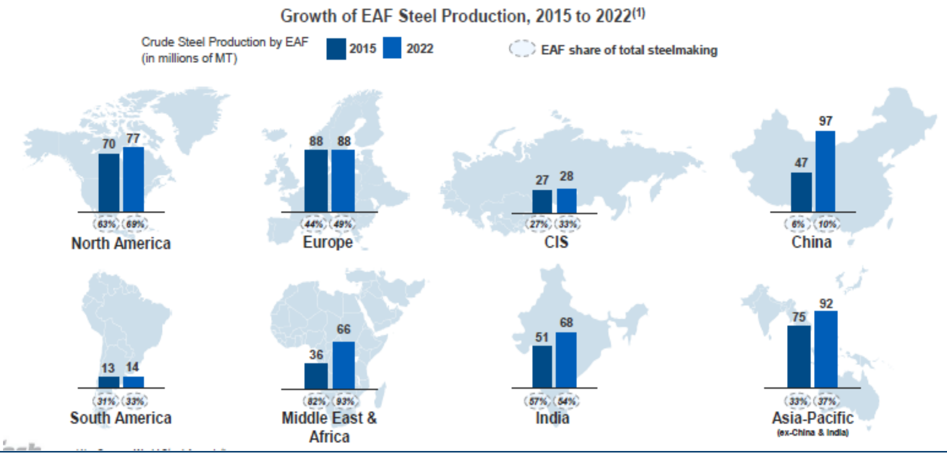
Globally, steel manufacturers are transitioning towards the Electric Arc Furnace (EAF) route of steelmaking, which emits ~75% less carbon compared to blast furnace, thereby making it an environmentally friendly alternative to integrated steelmaking through Blast Furnace (BOF) route. EAF uses scrap steel as its key iron input material and hence requires relatively less energy to formulate finished steel vs. BF route which primarily uses mined iron ore and other inputs as its key raw material and require more energy to convert into finished steel. As per the world steel association, the EAF share in total crude steel production (ex-China) has increased from ~44% in 2015 to ~50% in 2022. With increased focus on decarbonization by developed regions, the share of Electric Arc Furnace (EAF) route of steel making in total steel production (ex-China) is see climbing to ~55% in next few years. Furthermore, it is projected that more than ~170 million tons of EAF capacity (ex-China) will be added by 2030, resulting in an incremental demand for graphite electrodes by ~2 lakh tons vs. the existing market size of ~8 lakh tonne. Hence, the global shift towards EAF route of steelmaking augurs well for HEG, which is one of the top 5 graphite electrodes producer globally, having the capacity of 100,000 tonnes per annum, including new capacity of 20,000 tons already commissioned in Q3FY24 and production ready to hit markets in Q4FY24E.

Exhibit 7: Increasing share of EAF in total crude steel production (Ex China)



Source: World Steel Association, ICICI Direct Research

Exhibit 8: Region-wise Growth of EAF Steel Production 2015 to 2022



Source: Graftech, ICICI Direct Research

In key markets like North America, the share of EAF is on the rise from 63% in 2015 to 69% in 2022 with absolute steel production from EAF route pegged at 70 MT in 2015 and 77 MT in 2022. In the case of Europe, the absolute volumes of steel made through EAF route has remained constant at 88 MT over 2015-22, the share of it however has inched up from 44% in 2015 to 49% in 2022, signaling decline in steel production especially through BF route

Exhibit 9: Estimated EAF Capacity Additions and Incremental Electrode Demand

Estimated EAF Capacity Additions and Incremental Electrode Demand
(2023 to 2030; in key regions only)

	Estimated EAF Capacity Additions(1) (in millions of MT)	Estimated Incremental Electrode Demand(2) (in thousands of MT)
North America	~21	~25
Europe	~55	~65
Middle East / Africa	~48	~55

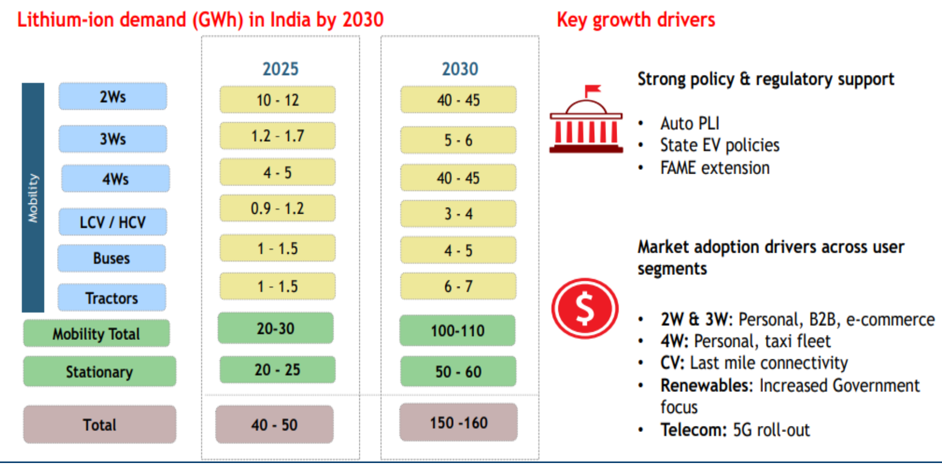
Source: Graftech, ICICI Direct Research

Rightfully entering in advanced carbon material domain for sunrise sector

The ongoing shift towards E-mobility (Electric Vehicles) & increasing stationary applications is projected to drive ~150-160 GWh demand for Li-On batteries by 2030, thereby generating ~1.5 lakh tons of demand for graphite anode, which is crucial for lithium-ion cells. Capitalizing on this prospect, HEG is venturing into the manufacturing of graphite anode through its wholly owned subsidiary company, TACC. The planned capacity is set at 20,000 tons, with a capex cost of ~₹1,700-1,800 crores, catering to ~20 GWh of cell manufacturing capacity (sunshine sector) and is expected to be commissioned in H2FY26. Furthermore, for this new business, the management anticipates asset turnover ratio of -1.1 x, EBITDA margins at 25%+ and RoCE at ~20%. We believe it to be structurally positive for HEG thereby providing stability to its earnings vs. the present volatile earnings in the graphite electrodes space. This is value addition segment for HEG & shall also improve its overall P&L profile

As per industry sources, Li-On battery demand is envisaged at ~40-50 GWh by 2025 and ~150-160 GWh by 2030; thereby generating a demand of ~40-50kT of graphite anode material by 2025 and ~150-160KT of anode material by 2030

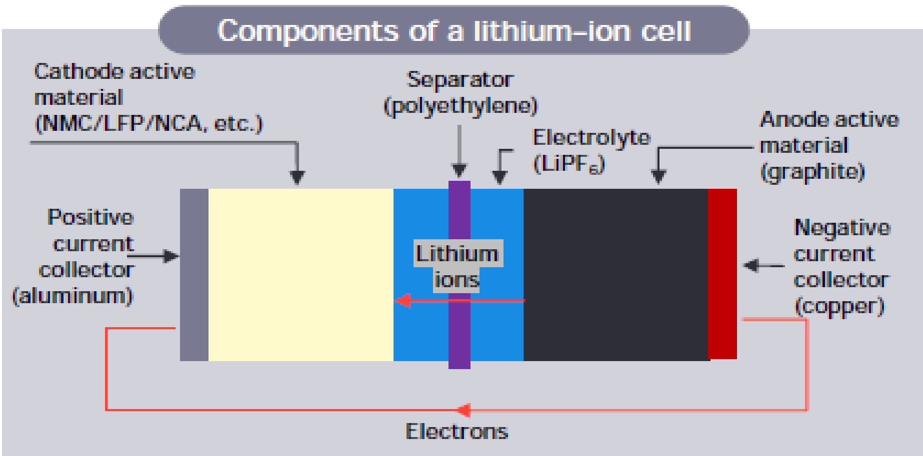
Exhibit 10: Lithium-ion demand (GWh) in India by 2030



Source: Exide Industries, ICICI Direct Research

Graphite Anode is significantly important component of a Li-On Cell

Exhibit 11: Li-On Cell Components



Source: Niti Aayog, ICICI Direct Research

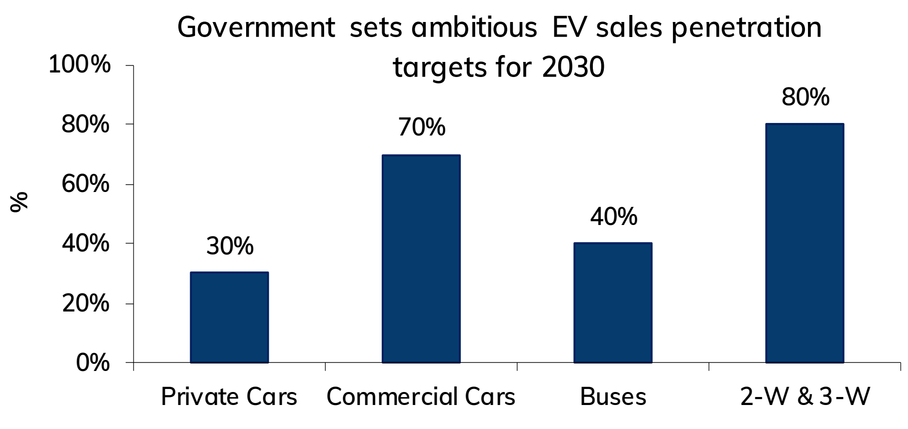
-Electrification is steadily gaining pace domestically with penetration in the 2-W space now pegged at ~5% while the same in PV space is at ~2% (~CY23)

-With falling battery prices, domestic OEM's have resorted to aggressive price cuts with certain EV vehicles now largely at par with their ICE models. Breakeven levels have greatly reduced

-With rising charging infrastructure, EV penetration is expected to witness a J curve in the near term, which bodes well for graphite anode space, positive for HEG

-Government envisages to reach EV penetration levels of ~80% in 2-W/3-W space, 40% in buses, ~30% for private cars and ~70% for fleet by 2030; structurally positive in nature for HEG

Exhibit 12: EV Penetration Targets - 2030

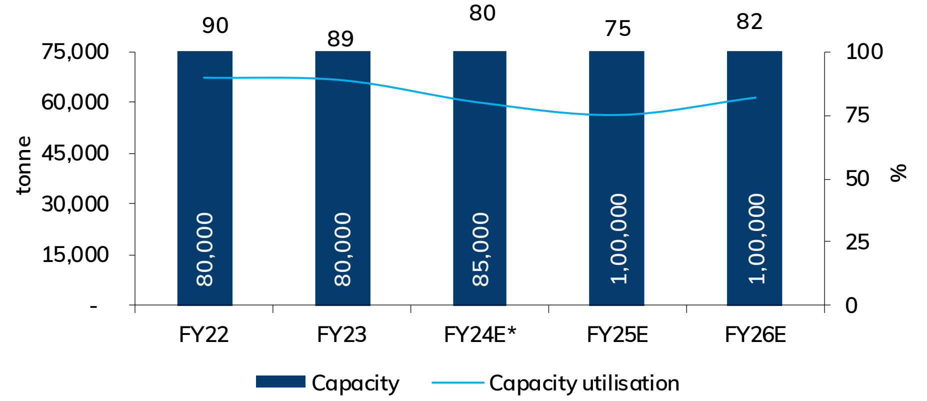


Source: Niti Aayog-Government of India, ICICI Direct Research

Key Financial Summary

On a capacity of 80,000 tonne, HEG operated at ~90% capacity utilisation as of FY22 & FY23. However, subdued demand across the globe coupled with expanded capacity base has resulted in company's utilization levels to drop to ~80% level in FY24E. With structural drivers in place for healthy steel production volume growth through EAF route and commissioning of new brownfield capacity of 20,000 tons, we expect utilisation levels to inch up to 75% in FY25E and further augment to ~82% in FY26E.

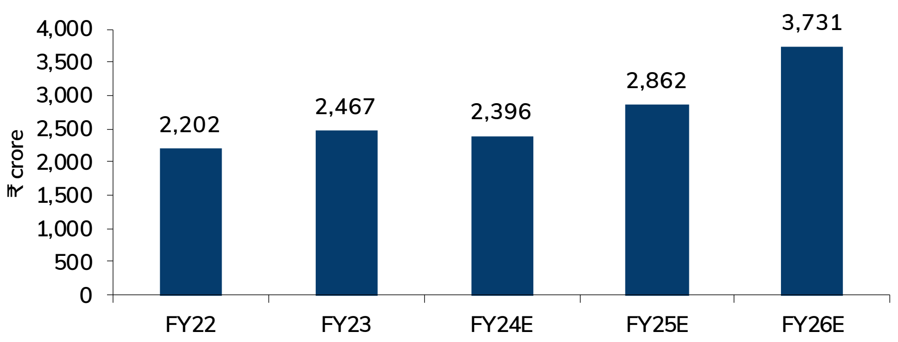
Exhibit 13: Capacity and Utilisation levels



Source: Company, ICICI Direct Research: *for FY24E the capacity is weighted average for 80,000 – 9M'24 and 1,00,000 – 3M'24

HEG witnessed robust topline growth of 40% CAGR over FY21-23, driven by high volume growth and improvement in graphite electrodes realization. However, tepid demand and a drop in graphite electrodes prices is expected to result in flat sales in FY24E. Going forward however, we expect HEG to clock a topline growth CAGR of 15% over FY23-26E, reaching ₹ 3,730 crores by FY26E. This growth is attributed to the projected increase in sales volume as well as improvement in blended realization. On conversative basis, we have not built in sales from the graphite anode business.

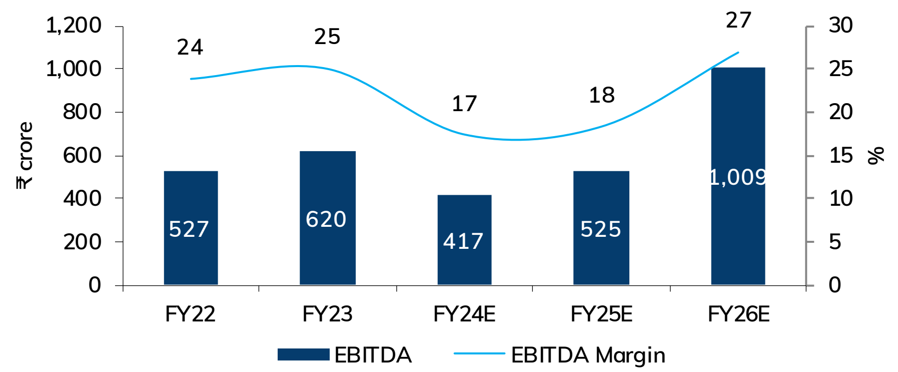
Exhibit 14: Trend in Topline



Source: Company, ICICI Direct Research

Increase in sales volume coupled with better graphite electrode-needle coke spreads bodes well for HEG with its EBITDA margins slated to improve from a low of 17% in FY24E to 27% in FY26E. EBITDA is expected to exhibit a CAGR of 18% over FY23-26E.

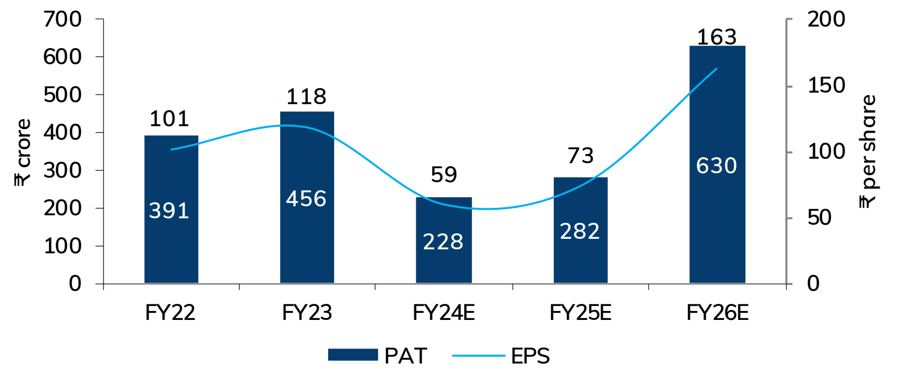
Exhibit 15: Trend in EBITDA & Margins



Source: Company, ICICI Direct Research

From a low of ~₹ 230 crore in FY24E, PAT is expected to grow at a CAGR of 11.4% over FY23-26E to ₹630 crore in FY26E with corresponding EPS seen at ₹163 in FY26E.

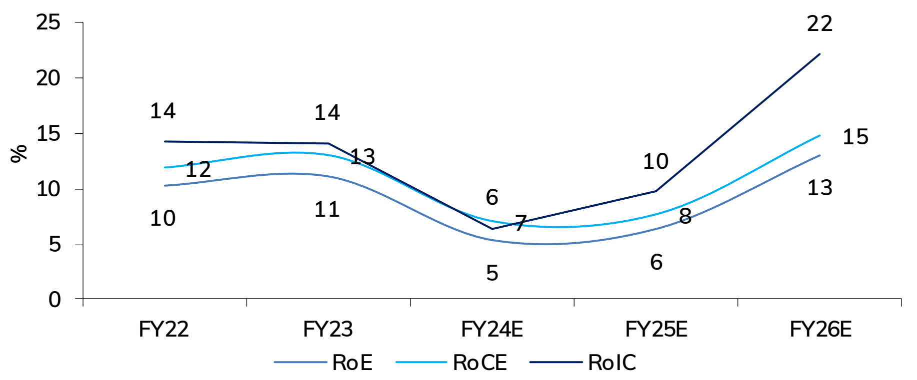
Exhibit 16: Trend in Bottom Line & EPS



Source: Company, ICICI Direct Research

Consequently, the return ratios are expected to improve with RoCE seen at ~15% in FY26E. A key point to be noted is that FY26E RoCE is supressed due to sizeable CWIP for its new graphite anode business, excluding which core RoIC is placed at ~22%

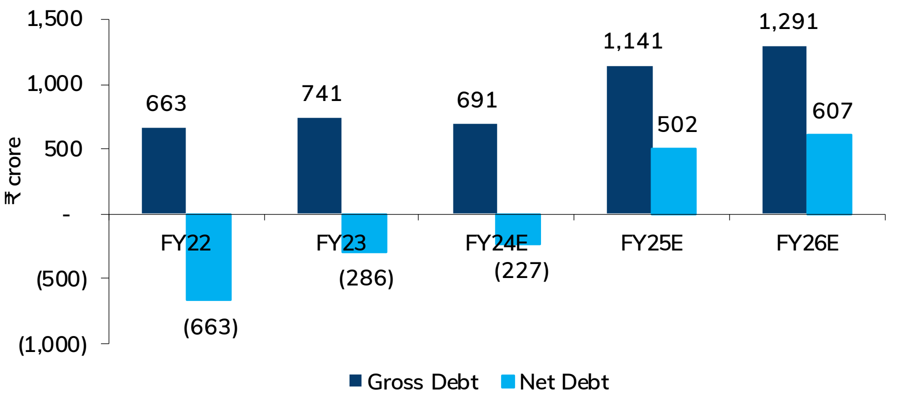
Exhibit 17: Trend in Return Ratios



Source: Company, ICICI Direct Research

HEG is net cash positive company with gross debt (working capital loans) as of FY24E expected at ~₹ 700 crore and net cash at ~₹ 230 crore. Going forward however with ambitious graphite anode capex outlay (~₹ 1,700-1,800 crore for 20,000 tonne plant) we expect it to load onto debt on its B/S and turn debt positive with net debt as of FY26E expected at ~₹ 600 crore. Post FY26E as the new plant ramps up as well as increasing profitability of its graphite electrode business, we expect it to gradually come down in due course of time. Debt: Equity over FY24E-26E is expected at ~0.2-0.3x, within our comfort limit.

Exhibit 18: Trend in Gross and Net Debt



Source: Company, ICICI Direct Research

Valuation

- We have a positive view on HEG, on the back of structural demand drivers in place amid ongoing global shift towards EAF route of steelmaking, capacity expansion led volume growth in offering, sizeable play in the graphite anode business for EV batteries (sunrise sector) and healthy balance sheet (Debt: Equity at 0.3x as of FY26E).

- **We assign BUY rating on the stock**

- We value HEG at **₹ 2,420** thereby valuing it on SoTP basis, i.e. 7.5x EV/EBITDA on core graphite electrode business, 2x P/B on equity investment in BEL and 1x CWIP to graphite anode business, all on FY26E basis.

Exhibit 19: Valuation – SoTP table

Particulars	Amount
FY26E EBITDA	1,009
EV/EBITDA Multiple	7.5
EV (₹ Crore)	7,568
Net Debt (FY26E)	607
2x P/B Bhilwara Energy Equity Investment	614
1x CWIP to new Graphite Anode Plant (FY26E)	1,772
HEG Implied Equity Value (Market Capitalisation)	9,347
No. of Shares	3.9
Target Price (₹)	2,420
CMP	1,900
Upside	27%

Source: *ICICI Direct Research*

Risk and Concerns

Delay in recovery amid tepid near-term muted graphite electrode pricing scenario

Other global major players operating in the graphite electrode space (ex-China) have given a muted demand and pricing outlook for the near term which is expected to have implications for HEG as well. The company has also reciprocated the same in its recently held Concall. We have built in recovery in volumes and pricing from Q2FY25 onwards & hence any delay in recovery could potentially impact our forward financials.

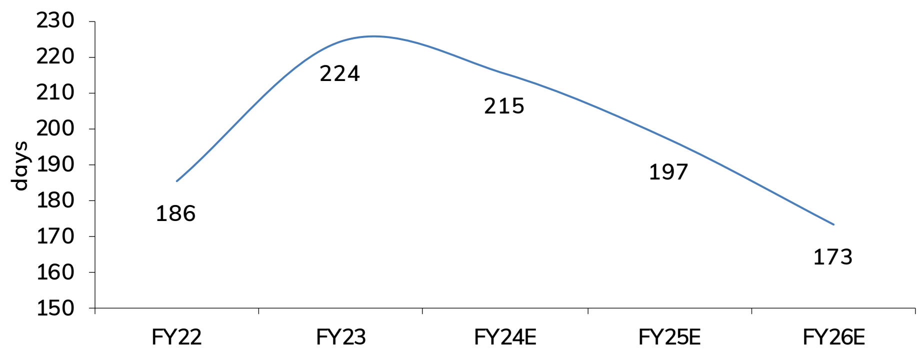
Exposed to the volatility of Needle coke prices

HEG's performance relies heavily on the availability and the pricing of high-quality petroleum needle coke, a crucial raw material for graphite electrodes production. Any disruptions in supply chain or sharp increase in needle coke prices could adversely impact the HEG's operating margins and overall profitability going forward.

High working capital intensive business

HEG's operations require significant working capital due to long period of (~6 months) manufacturing process for graphite electrodes resulting in ~225 days of net working capital cycle as FY23. Rise in FY23 levels is primarily due to extended inventory turnover days amid subdued demand. Going forward, however, the swift addition of capacities in Electric Arc Furnace space across the globe is expected to ease the inventory challenges and normalized working capital cycle for HEG going forward.

Exhibit 20: Working Capital cycle days trend



Source: Company, ICICI Direct Research

Financial Summary (Standalone)

Exhibit 21: Profit and loss statement ₹ crore

(Year-end March)	FY23	FY24E	FY25E	FY26E
Total Operating Income	2,467	2,396	2,862	3,731
Growth (%)	12	(3)	19	30
Raw Material Expenses	915	1,138	1,422	1,733
Employee Expenses	92	92	100	112
Other expenses	841	749	814	877
Total Operating Expenditure	1,848	1,979	2,336	2,722
EBITDA	620	417	525	1,009
Growth (%)	18	(33)	26	92
Depreciation	102	171	189	197
Interest	26	36	46	61
Other Income	109	98	87	90
PBT	600	309	377	841
Exceptional Item	-	-	-	-
Total Tax	145	81	95	212
Reported PAT	456	228	282	630
Adjusted PAT	456	228	282	630
Growth (%)	17	(50)	24	123
EPS (₹)	118	59	73	163

Source: Company, ICICI Direct Research

Exhibit 22: Cash flow statement ₹ crore

(Year-end March)	FY23	FY24E	FY25E	FY26E
Profit/(Loss) after taxation	456	228	282	630
Add: Depreciation & Amortization	102	171	189	197
Sub: Other Income	-109	-98	-87	-90
Net Increase in Current Assets	-231	1	-259	-370
Net Increase in Current Liabilities	-48	133	158	171
CF from operating activities	169	435	283	538
(Inc)/dec in Investments	370	40	275	-10
(Inc)/dec in Fixed Assets	-478	-500	-1000	-500
Add: Other Income	109	98	87	90
CF from investing activities	1	-362	-638	-420
Inc / (Dec) in Equity Capital	0	0	0	0
Inc / (Dec) in Loan	78	-50	450	150
Dividend & Dividend Tax	-164	-81	-100	-223
Others	-4	0	0	0
CF from financing activities	-90	-131	350	-73
Net Cash flow	80	-58	-5	45
Opening Cash	602	681	623	619
Closing Cash	681	623	619	663

Source: Company, ICICI Direct Research

Exhibit 23: Balance Sheet ₹ crore

(Year-end March)	FY23	FY24E	FY25E	FY26E
Liabilities				
Equity Capital	39	39	39	39
Reserve and Surplus	4,039	4,186	4,369	4,776
Total Shareholders funds	4,077	4,225	4,407	4,814
Total Debt	741	691	1,141	1,291
Deferred Tax Liability	87	87	87	87
Non Current Liabilities	7	7	7	7
Total Liabilities	4,912	5,009	5,642	6,199
Assets				
Gross Block	2,545	3,045	3,045	3,245
Less: Acc Depreciation	1,183	1,353	1,542	1,739
Net Block	1,363	1,692	1,503	1,507
Capital WIP	472	472	1,472	1,772
Total Fixed Assets	1,835	2,164	2,975	3,279
Investments	666	626	351	361
Inventory	1,440	1,437	1,600	1,790
Debtors	489	492	588	767
Loans and Advances	268	278	288	298
Other Current Assets	109	98	88	79
Cash	681	623	619	663
Total Current Assets	2,988	2,928	3,183	3,598
Creditors	412	515	643	784
Other Current Liabilities (incl I	165	195	225	255
Current Liabilities & Prov	576	709	868	1,038
Net Current Assets	2,411	2,219	2,316	2,559
Others	-	-	-	-
Application of Funds	4,912	5,009	5,642	6,199

Source: Company, ICICI Direct Research

Exhibit 24: Key ratios

(Year-end March)	FY23	FY24E	FY25E	FY26E
Per share data (₹)				
EPS	118	59	73	163
BV	1,056	1,094	1,142	1,247
DPS	43	21	26	57
Cash Per Share	177	161	160	172
Operating Ratios (%)				
EBITDA margins	25.1	17.4	18.4	27.0
PBT margins	24.3	12.9	13.2	22.6
Net Profit margins	18.5	9.5	9.9	16.9
Inventory days	213	219	204	175
Debtor days	72	75	75	75
Creditor days	61	78	82	77
Return Ratios (%)				
RoE	11.2	5.4	6.4	13.1
RoCE	13.0	7.0	7.6	14.8
RoIC	14.1	6.5	9.7	22.1
Valuation Ratios (x)				
P/E	16.1	32.1	26.0	11.6
EV / EBITDA	11.4	17.0	14.9	7.9
EV / Revenues	3.0	3.1	2.7	2.1
Market Cap / Revenues	3.0	3.1	2.6	2.0
Price to Book Value	1.8	1.7	1.7	1.5
Solvency Ratios				
Debt / Equity	0.2	0.2	0.3	0.3
Debt/EBITDA	1.2	1.7	2.2	1.3
Current Ratio	5.2	4.1	3.7	3.5
Quick Ratio	2.7	2.1	1.8	1.7

Source: Company, ICICI Direct Research

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Buy: >15%

Hold: -5% to 15%;

Reduce: -15% to -5%;

Sell: <-15%

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