India

Underweight *(no change)*

Highlighted Companies

HEG Limited

ADD, TP Rs2462, Rs1757 close

HEG is likely to register a 6% volume CAGR over FY24F-26F, and in the meantime its RoE is expected to rise from 8.6% in FY23 to 12.2% in FY25F. We have assigned an ADD rating to the stock with a target price of Rs2,462

Steel Authority of India

REDUCE, TP Rs77, Rs100 close

Working capital release-led debt reduction is behind us. Low profitability and continued capex will increase the debt on SAIL's books. We value SAIL at 6.5x EV/EBITDA to arrive at a target price of Rs77. Retain REDUCE rating on the stock.

Tata Steel

REDUCE, TP Rs70, Rs130 close

Performance disparity likely between Tata Steel's Indian and European businesses. We retain our high conviction REDUCE rating on Tata Steel.

Summary Valuation Metrics

P/E (x)	Mar22-A	Mar23-A	Mar24-F
HEG Limited	17.36	14.89	13.65
Steel Authority of India	3.42	21.61	18.36
Tata Steel	3.81	12.59	24.72
P/BV (x)	**Mar22-A**	**Mar23-A**	**Mar24-F**
HEG Limited	1.8	1.58	1.36
Steel Authority of India	0.79	0.79	0.76
Tata Steel	1.39	1.28	1.24
Dividend Yield	**Mar22-A**	**Mar23-A**	**Mar24-F**
HEG Limited	0.18%	2.27%	1.77%
Steel Authority of India	0%	0%	0%
Tata Steel	19.21%	1.54%	1.54%

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Steel

Use all rallies to sell; retain Underweight

- Coking coal prices have tailwinds of lower production growth. After remaining range-bound so far in FY24, they are likely to rise again in FY25F.
- Europe's EAF steel production growth is benefiting HEG. Scrap prices are unlikely to rise as Europe's production will increase & Chinese imports will fall.
- Steel companies' margin to fall because of cheap Chinese steel imports. In Europe, rise in EAF steel output & carbon tax will make blast furnaces unviable.

Coking coal to remain range bound in FY24F before rising in FY25F

FY24F is likely to be a dull year for coking coal prices as significant steel production will shift to the Electric arc furnace (EAF) in Europe. While Indian demand will rise, it won't be enough to balance the market. We expect the market to remain in surplus (although only ~ 10mt) in FY24F but from FY25F onwards, the coking coal market will be in deficit again.

Europe's EAF steel output to rise - pressure on BF steel firms' profits

With lower power cost and increased scrap availability, European electric arc furnaces or EAFs are viable once again. They are much more profitable vis-à-vis blast furnaces (BFs) if we account for the carbon tax on BFs. Europe can easily produce 102-105mt of steel scrap (based on historical highs) and has approximately 90mt of working EAF capacity (operating at 65% utilization). It is likely that we will witness a 13-14% rise in Europe's EAF steel production in FY24F, exerting pressure on blast furnaces' profits.

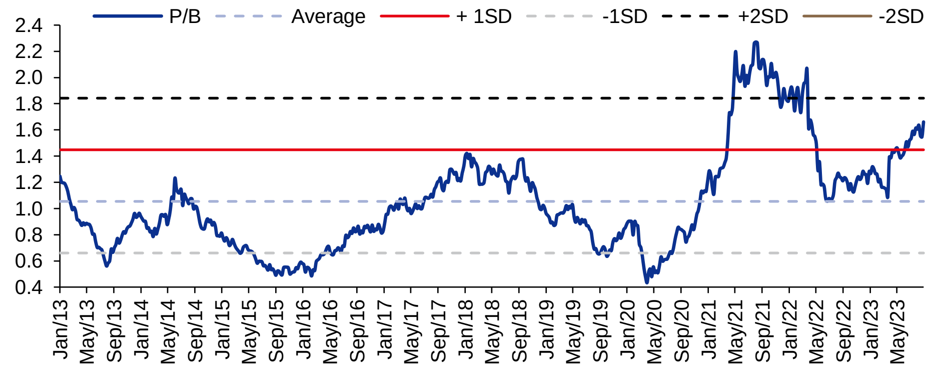
Despite rising Indian iron ore prices, scrap prices are unlikely to rise

Indian iron ore prices are rising as iron ore exports are viable now (after the removal of export tax on pellets). Higher pellet and fines export and a slow rise in production are leading to the price rise. Iron ore mines, which were won at a 100%+ premium to the IBM's (Indian Bureau of Mines) prices, were unviable from Day 1 and now they are being surrendered by the winning miners (please see link here). Scarcity of iron ore is pushing up sponge iron prices, which can lead to higher scrap imports in India. Europe's scrap usage will also rise and thus, there is a risk of a rise in scrap prices but falling Chinese demand to act as a counter-balancing factor. We don't expect scrap prices to rise.

Steel super cycle myth busted; prices remain subdued

Please note that we had pointed out in our earlier reports that supply chain-related problems are leading to high prices and there was no super cycle phenomenon. Here are some of our reports: 1)IN: Steel - Irrational enthusiasm 2) IN: Steel - Recent market exuberance close to its end . The lack of inventory in the supply chain led to scarcity and overstocking, which will get negated only over several quarters. Steel prices are unlikely to bounce back sharply, and the best of steel spreads are behind us. We may have sentimental trades of China's economy reopening/European stimulus/US infrastructure, etc. but steel profitability will trend downwards and hence, the traditional buy-and-hold strategy will not work. We feel it's a trading sector now, and one must be nimble in getting in and out of stocks to make money.

Figure 1: Our equally weighted steel index comprising four stocks trades at 1.6x P/BV



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Use all rallies to sell; retain Underweight

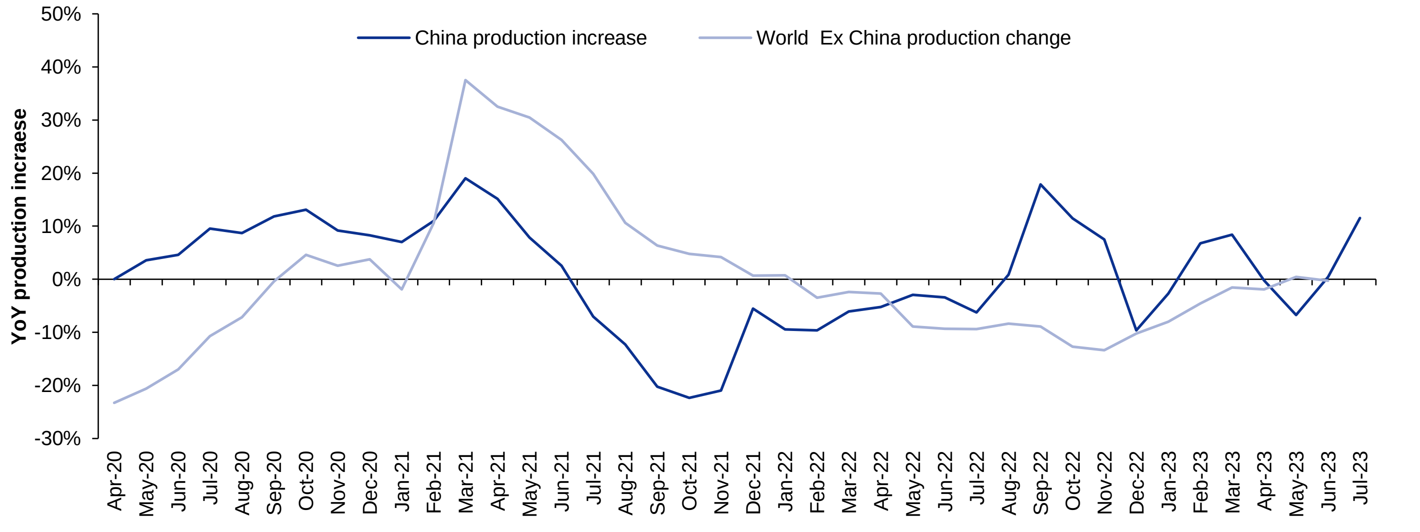
China: The perennial hope for steel companies

China is the perennial hope as well as nemesis of steel companies. Chinese exports never come down on a sustained basis. In the bull phase, we start believing whatever China says and in the bear phase it is vice-versa. Ultimately, given the general slowdown in China, it's imperative that they keep exporting steel out of the country and India will keep getting dumped with Chinese steel.

Whether Chinese steel production is declining? No, its not, rather it keeps on increasing

Barring the Covid-19 pandemic-related lockdown impact, China's steel production has never declined. Even now, while the world is slowing down, China's steel production is still going strong.

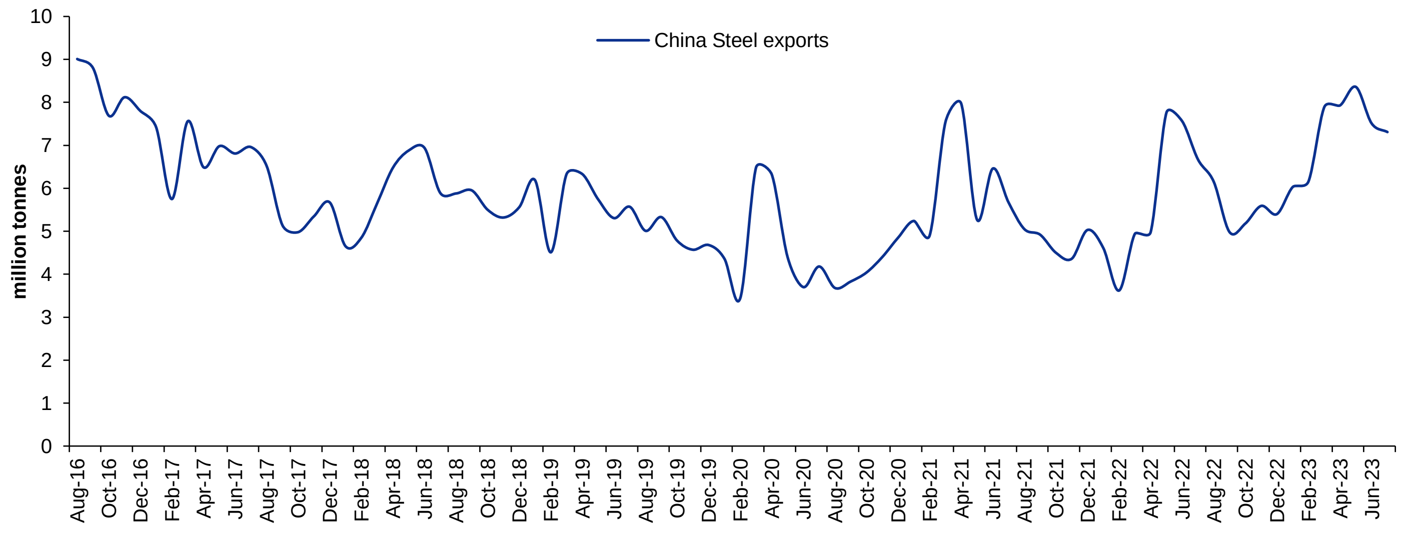
Figure 2: China has decreased its steel production during the Covid-19 lockdown phase, but it's now back to square one



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Similarly, China's steel exports are showing no signs of slowing down

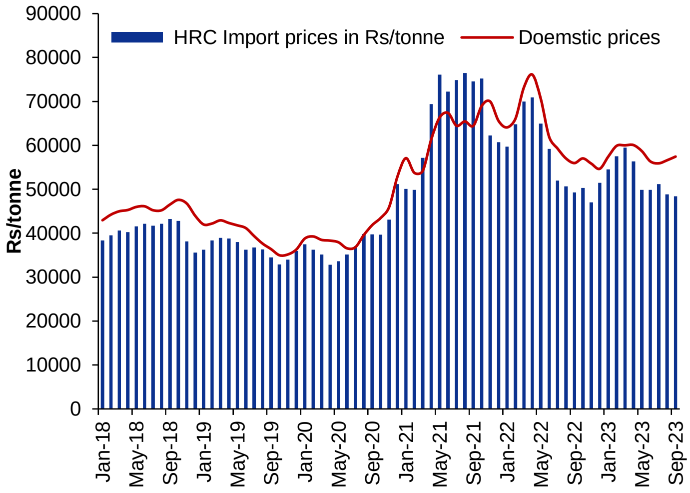
Figure 3: China's steel exports have been rising since Oct 2022



SOURCE: INCRED RESEARCH, COMPANY REPORTS

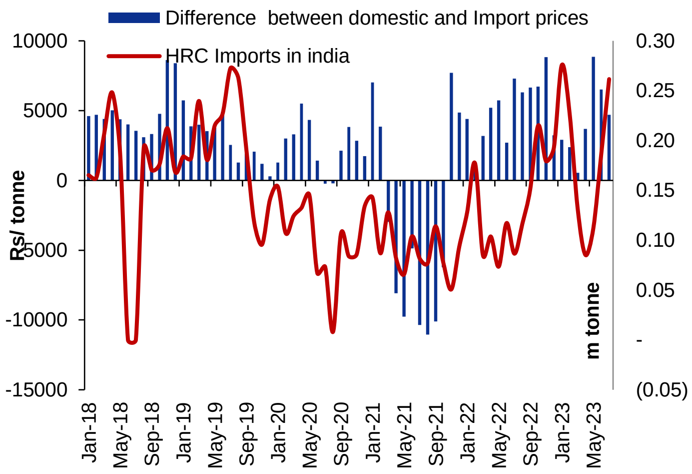
Higher steel prices are leading to increased steel imports in India, primarily from China

Figure 4: Indian domestic steel prices are higher than imported steel prices



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 5: As Chinese steel demand is under pressure and Indian domestic prices are high, imports are on the rise in India



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Is there any big plant closure in China? Difficult to guage, data doesn't indicate any closure

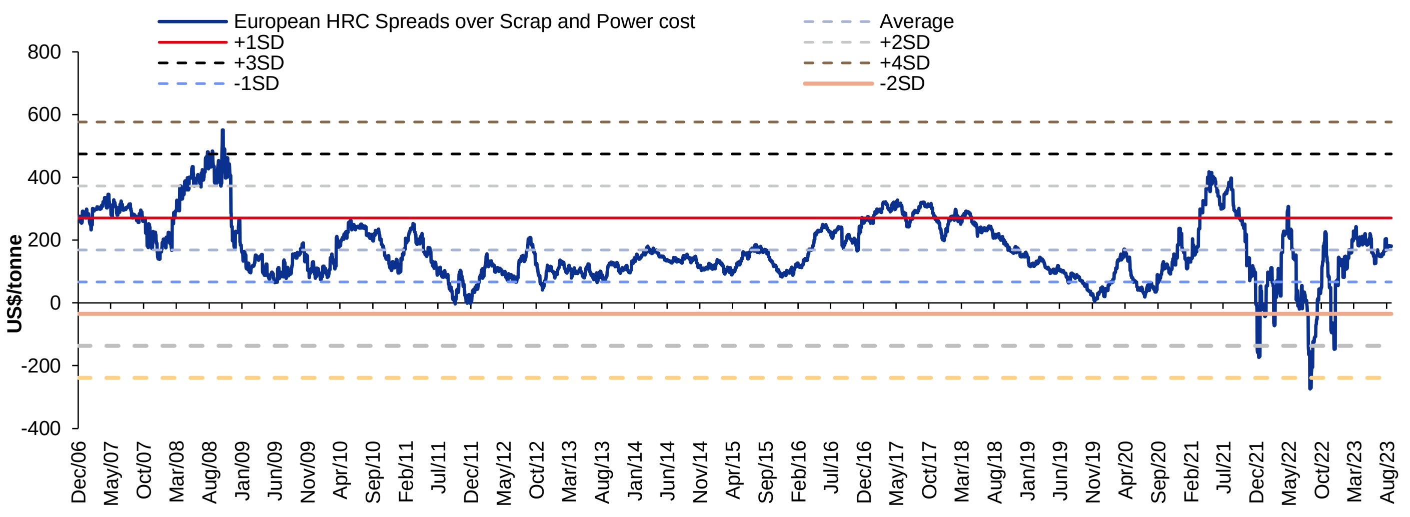
Given the amount of unaccounted capacity, it's not possible to gauge capacity closure in China. Having said that, a rising production rate doesn't indicate any capacity constraints in the country.

Europe's blast furnaces in trouble as power becomes cheaper and scrap prices won't rise

Europe's blast furnaces were ruling the roost as EAFs were uncompetitive there. EAFs had two headwinds during and after the Covid-19 pandemic such as 1) high power prices, and 2) lower scrap collection (because of the lockdown), leading to higher scrap prices as well. Hence, EAFs were unprofitable, which led to increased pricing power for BFs. The situation has completely reversed now. We expect EAFs' production to rise significantly (10-15%) over the CY22 level, which will put blast furnaces or BFs under stress. Rising EAF steel production in Europe will lead to 20,000t more graphite electrode consumption, which is positive for HEG (ADD) and Graphite India (UNRATED).

Europe's blast furnace spreads over power and scrap fell to a multi-decade low

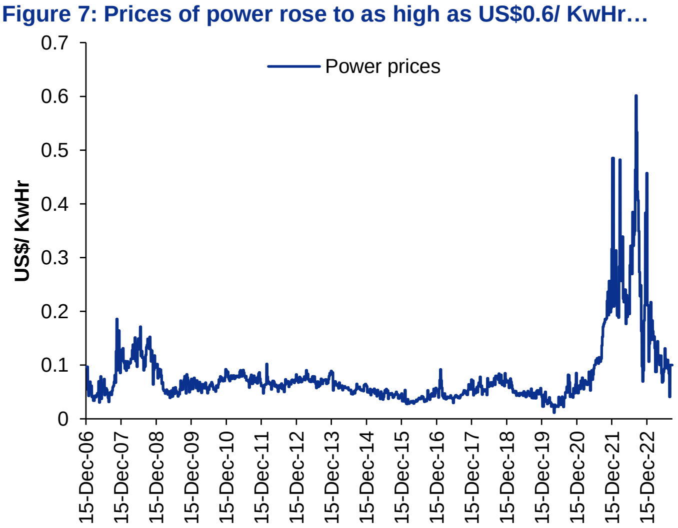
Figure 6: Europe's EAFs were bleeding in 2022 as higher power prices rendered them unprofitable



SOURCE: INCRED RESEARCH, COMPANY REPORTS

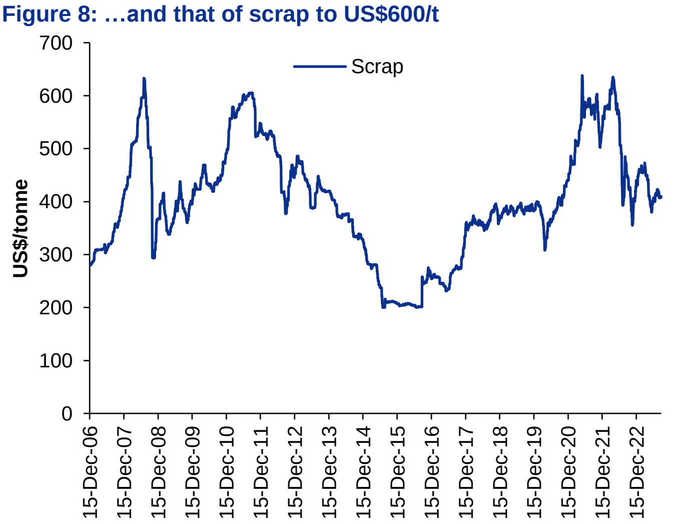
Power prices were quite high and scrap prices were also high compared to the historical range

Figure 7: Prices of power rose to as high as US$0.6/ KwHr…



SOURCE: INCRED RESEARCH, COMPANY REPORTS

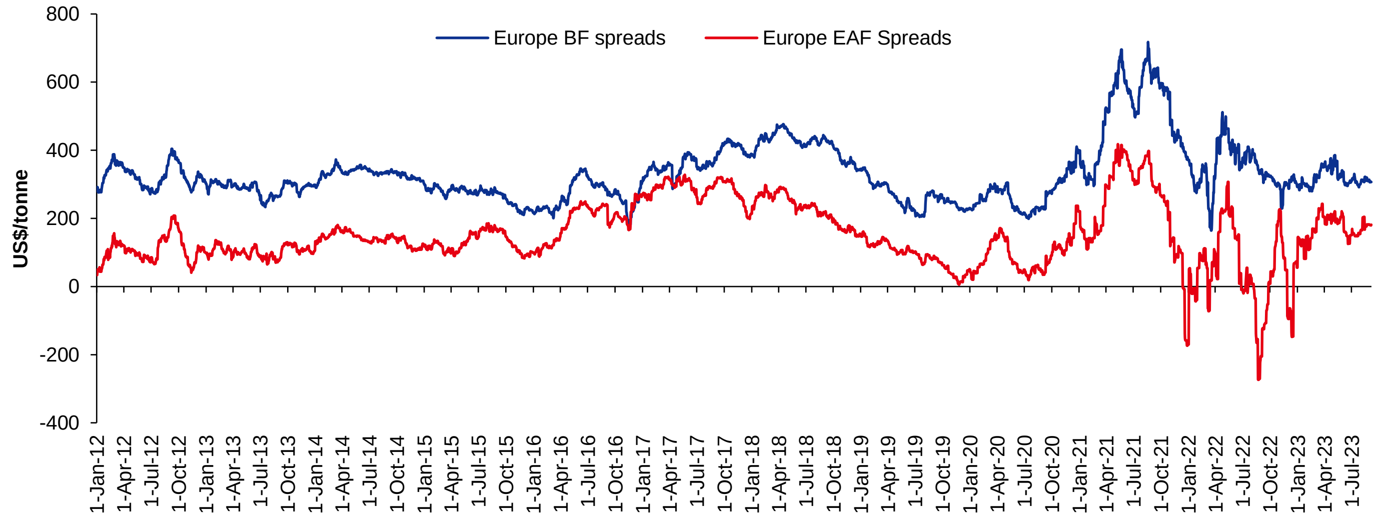
Figure 8: …and that of scrap to US$600/t



SOURCE: INCRED RESEARCH, COMPANY REPORTS

As a result, EAFs were rendered unprofitable and BFs were in business

Figure 9: Please note that because of higher fixed cost, BFs' spreads over raw material need to be higher by at least US$150/t compared to EAFs; however, during the energy crisis they were much higher because EAFs were not making even gross profit and BFs were ruling the market



SOURCE: INCRED RESEARCH, COMPANY REPORTS

BFs face high carbon tax as well, which will make then unviable in the coming days

- The European steel industry receives free allocation for carbon emission based on a statistical benchmark called EU ETS (Emission Trading System). This benchmark is set to be revised for the 2025F-30F period.
- This benchmark gives a limit on how much carbon emission is allowed for the steel industry without any costs, after which any extra emission cost must be borne by the steel manufacturer.
- This becomes more important because the cost of carbon permits in Europe has reached an all-time high of 95 euros/t (Rs8,642/t). While this is bad for the BF method of steel production, it's a tailwind for the EAF method of steel production which, in turn, benefits HEG.

EU emission trading system

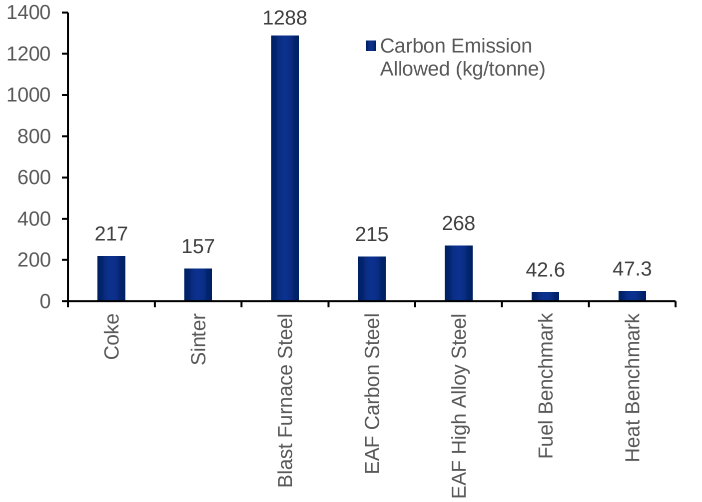
The European steel industry receives free allocation for carbon, with the allocation based on five products - coke, sinter, blast furnace steel, electric arc furnace or EAF carbon steel, EAF high alloy steel and the fuel and heat fall-back benchmarks for those processes that are not covered by the above methods.

How are the benchmarks set for carbon emissions?

- The average of emission by 10% best performers sets the benchmark, i.e., if there are 30 blast furnace plants in Europe, the average emission by the top three plants will decide the benchmark level.
- However, a few BFs invested in alternative technologies, like direct reduction of steel, and as a result, they will bring down the average benchmark for carbon emissions. As such alternative technologies are already active in the EU in 2021-22 (which is the reference period for the update of 2026F-30F benchmarks), they would contribute to a sharp reduction of those benchmarks in 2026F-30F because the benchmarks are set only by the average of lowest 10% emitting installations as mentioned (i.e. 2.5 installations set the benchmark for the entire sector comprising 25 installations).
- In addition to the reduction linked to the modification of benchmarks, the sector would also face in 2030F the 50% phase-out due to the carbon border adjustment mechanism (CBAM). Therefore, the sector would face huge free allocation shortage and carbon costs, even if low carbon investments (which require massive financial resources) were successful and the sector would

reduce its emissions by around 30% compared to today's levels. The worst- hit would be BFs for steel production.

Figure 10: Carbon emissions allowed under the 2020-25 ETS scheme, which will be further decreased during 2026F-30F



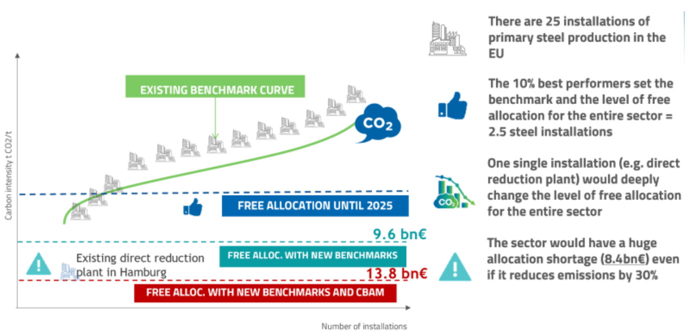
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 11: Scenario analysis for different rate of carbon emissions by steel mills, assuming 96 euro/t as carbon cost

	Annual reduction	50% CBAM reduction in 2030	30% reduction in Emissions
Annual Direct Emissions	185 mt/year	185 mt/year	130 mt/year
Annual Preliminary Free Allocation	86mt	43mt	43mt
Annual Free Allocation Shortage	99mt	142Mt	87mt
Annual Direct Carbon Costs (2025F-30F)	9.6bn euros	13.8bn euros	8.4bn euros

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 12: Diagram explaining the shortfall in carbon allocation and additional costs



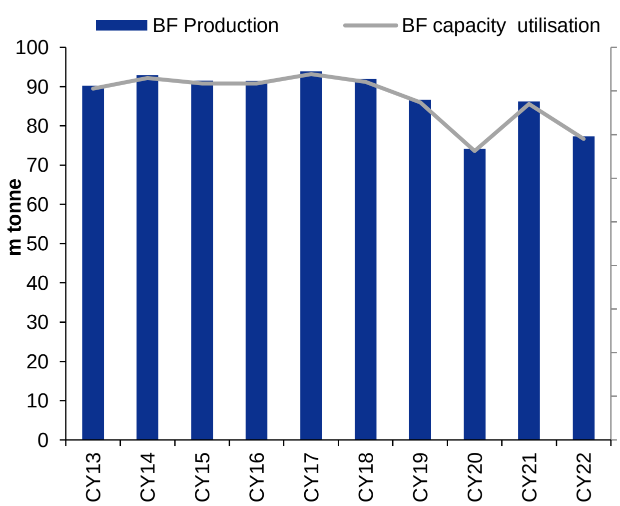
SOURCES: INCRED RESEARCH, COMPANY REPORTS

Figure 13: Price of carbon permits/t - it has reached an all-time high

SOURCES: INCRED RESEARCH, COMPANY REPORTS

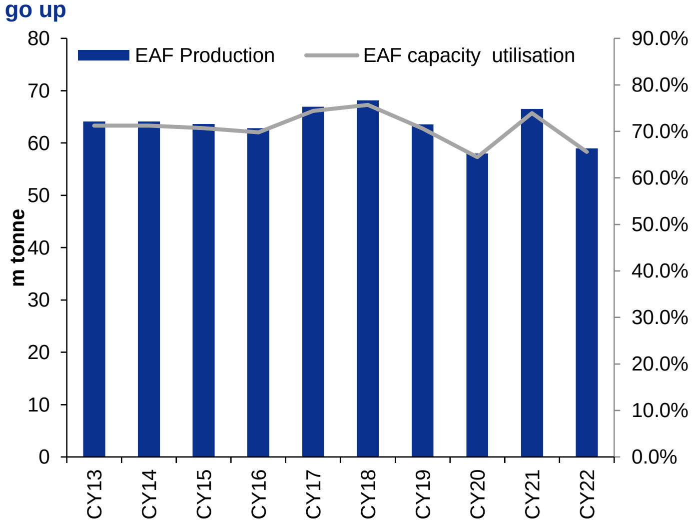
Europe has a significant unused EAF steel production capacity

Figure 14: Europe BF production has come down



SOURCE: INCRED RESEARCH, EUROFER

Figure 15: EAF production also declined in CY22, but is likely to go up



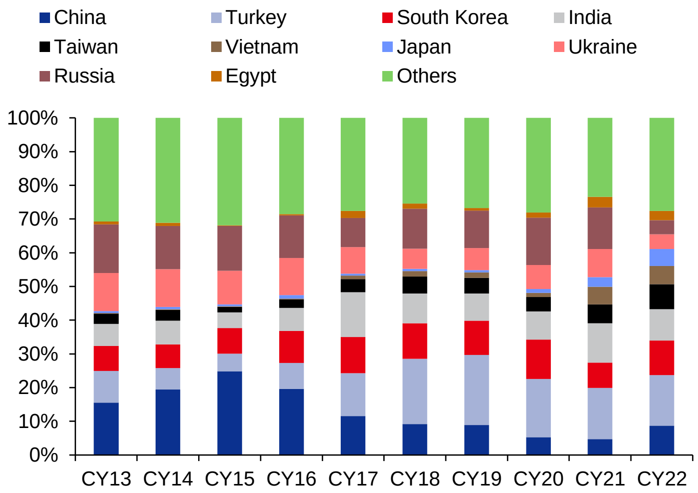
SOURCE: INCRED RESEARCH, EUROFER

In the new regime of high carbon tax and lower power prices, EAF steel production will be the preferred route

In the new regime of high carbon tax, EAF will be the preferred route as even 100 kg extra carbon emission will destroy the already thin profitability of European blast furnaces.

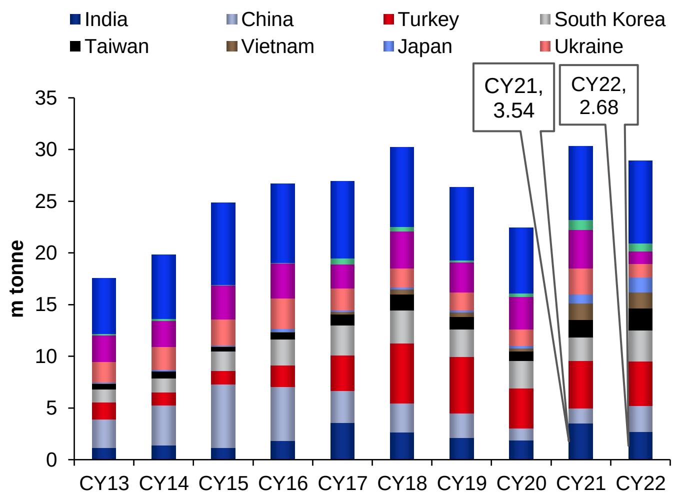
Indian exporters gained in 2021 as Europe was rushing to fill its supply chain

Figure 16: Chinese steel exports have come down in Europe and more or less have been replaced by India



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 17: India's steel exports to Europe nearly doubled in 2021 and fell by 25% YoY in 2022

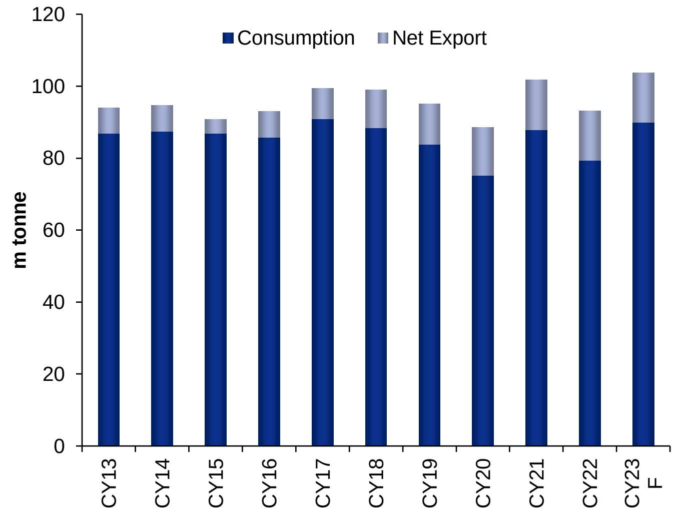


SOURCE: INCRED RESEARCH, COMPANY REPORTS

Don't expect scrap prices to rally in Europe as EAFs ramp up

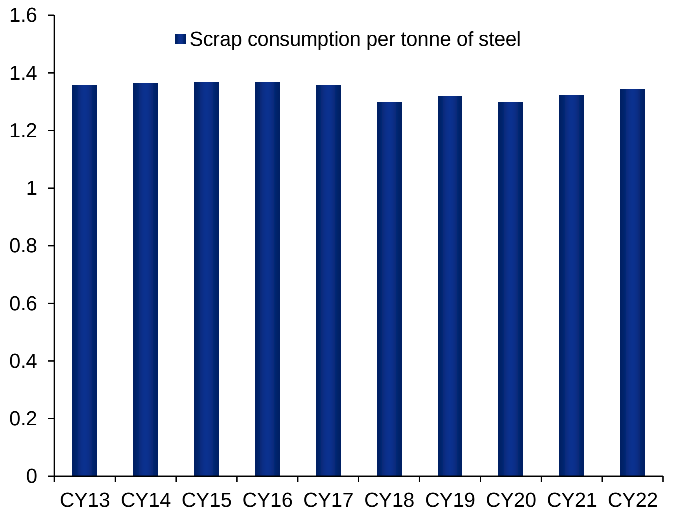
There can be one legitimate concern of the investors that scrap prices can rally if EAF steel production ramps up and thus, profitability of EAFs will get impaired. However, our analysis shows that Europe can easily produce 102-105mt of scrap. Accounting for the usual export of 13mt scrap, scrap availability for local consumption is still more than 90mt, and it can produce 67mt of steel in 2023F (a 13% rise YoY).

Figure 18: Europe can easily produce 102-103mt of scrap and thus, scrap exports can remain around 13-14mt – as a result, scarcity of scrap in the global market will not occur



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 19: Assuming 1.34t scrap consumption per tonne of EAF steel, production can rise to 67mt or a 13% rise YoY



SOURCE: INCRED RESEARCH, COMPANY REPORTS

If EAF steel production rises by 8-10mt in Europe, then graphite electrode prices will rally but their demand elasticity with price is extremely low

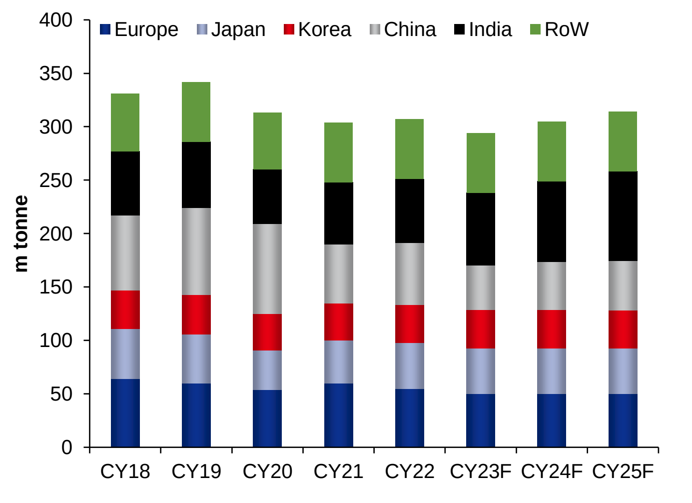
An 8-10mt rise in EAF steel production will raise graphite electrode demand by 16,000-18,000t. Given the tightly balanced market for graphite electrodes, we expect their prices to rise. Please note that even if graphite electrode prices double from the current levels, even then, at the maximum, EAFs' cost of steel production will rise by US$10/t, which is insignificant.

Graphite electrode, coking coal prices to rise but don't expect a rise in scrap prices

2023F is likely to be a dull year for coking coal prices as Europe will shift mostly to the blast furnace route of steel production. While Indian demand will rise, it won't be enough to balance the market. We expect the market to remain in surplus zone in 2023F, but from 2024F the coking coal market will be again in deficit. Scrap availability won't be a problem in 2023F but starting 2024F, one can expect the market to remain tight as European scrap exports may taper down a bit.

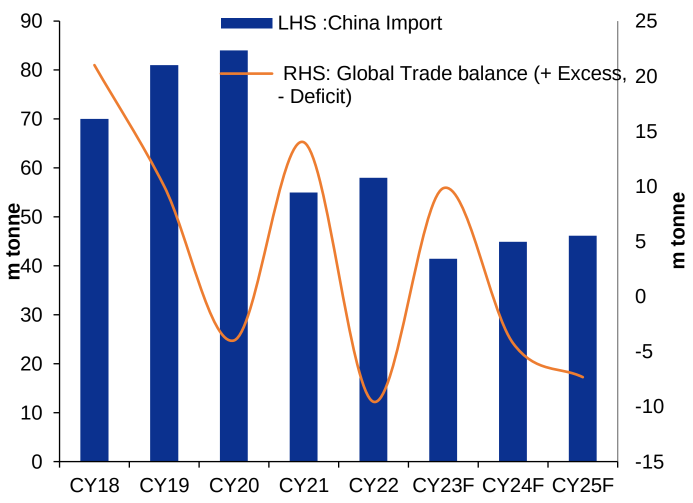
Coking coal shortage to ease in CY23F before accentuating in CY24F/25F

Figure 20: Global import demand for coking coal will taper off in 2023F before rising in CY24F/25F



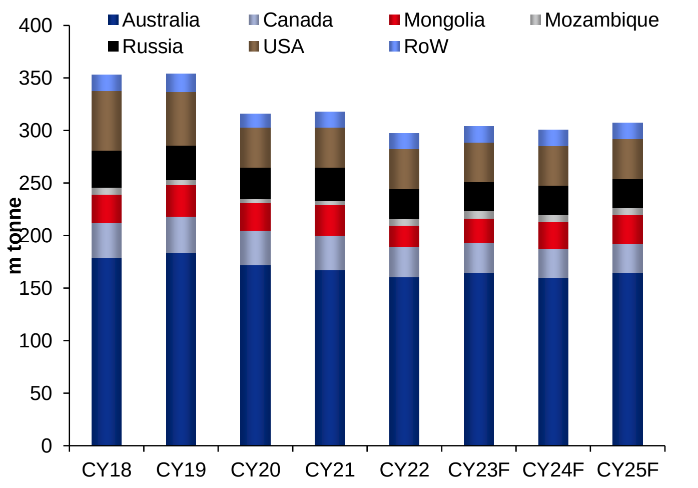
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 21: Global trade market will swing into the deficit zone, despite falling Chinese imports



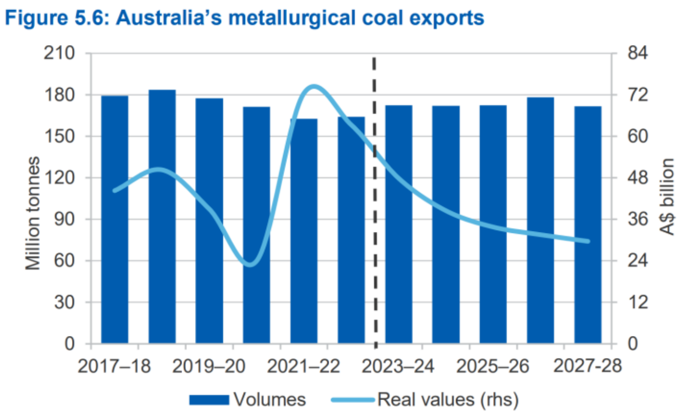
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 22: Australian exports have been disappointing for the last three years, and we don't see a respite in this trend



SOURCE: INCRED RESEARCH, COMPANY REPORTS

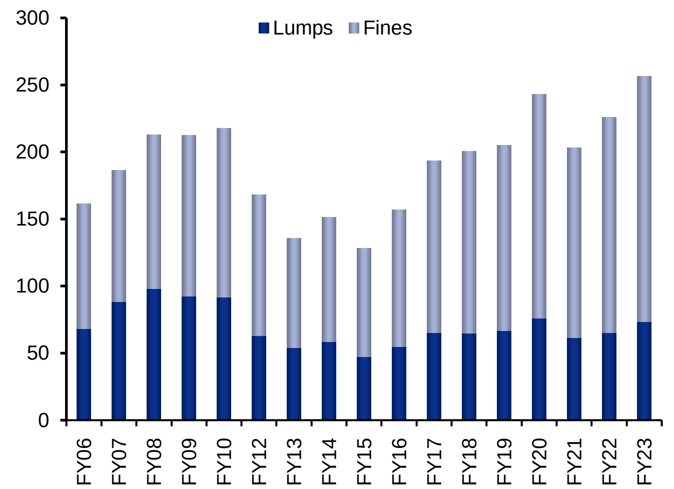
Figure 23: Australian government does see a spike in coking coal exports; please remember that pro-environment policies of the new government won't let mining to restart in a big way



SOURCE: INCRED RESEARCH, COMPANY REPORTS

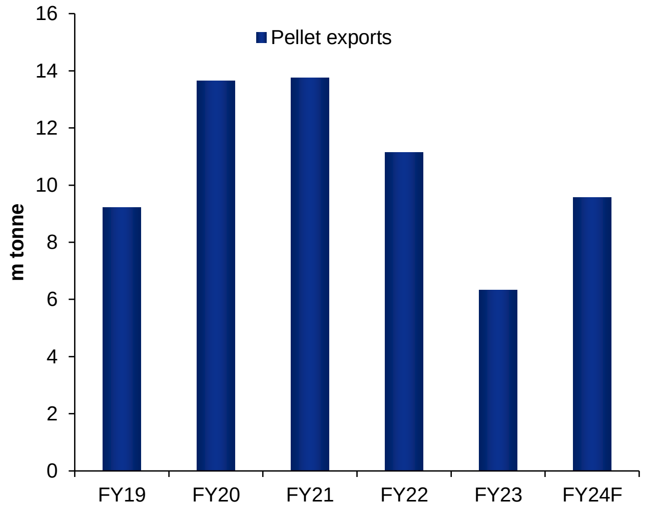
Indian domestic iron prices to rise as pellet exports to China pick up ›

Figure 24: India's iron production unable to cross the 25-260mt mark for the last four years



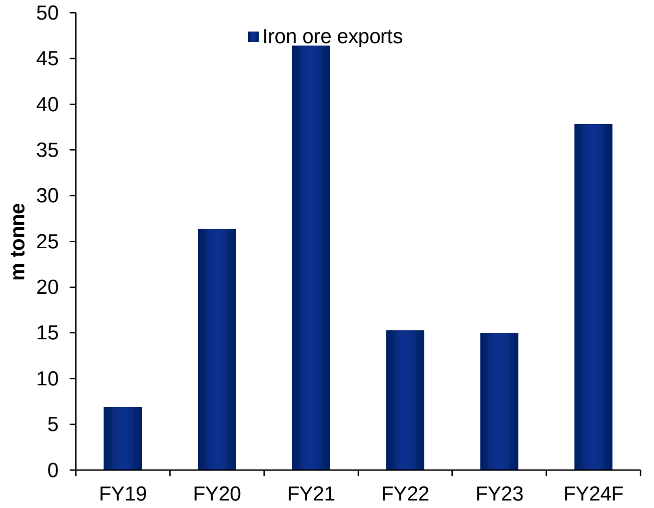
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 25: At the same time, India's pellet and iron ore exports are rising



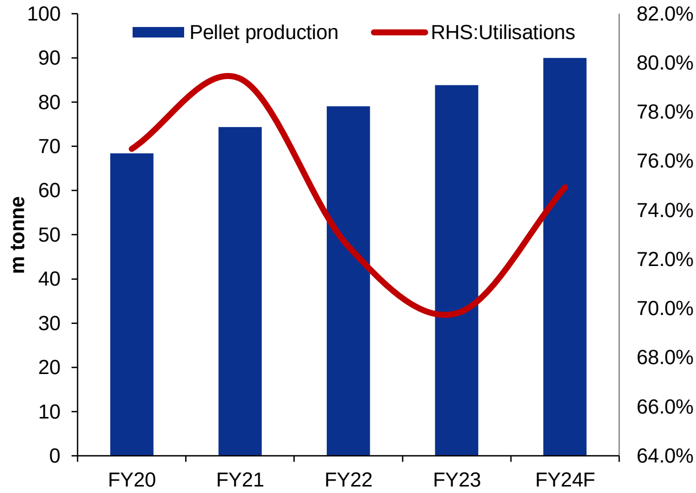
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 26: India's iron exports are likely to increase to 37mt in FY24F



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 27: Pellet capacity utilization



SOURCE: INCRED RESEARCH, COMPANY REPORTS

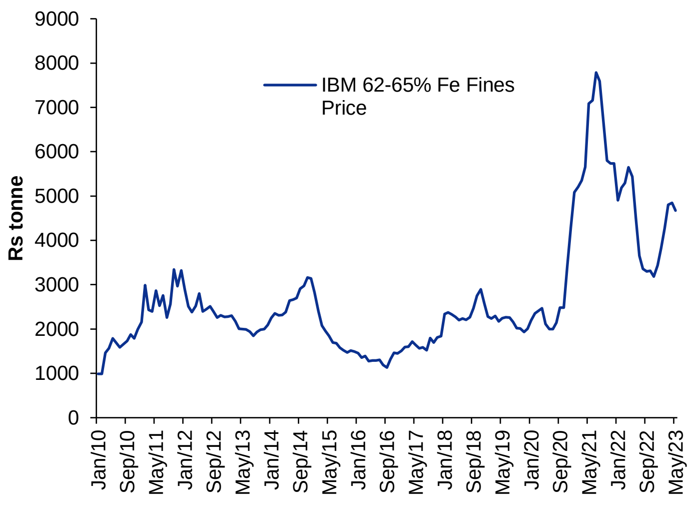
Figure 28: The domestic demand-supply balance indicates that iron ore can be in shortage in FY24F and hence, domestic iron ore prices will rise (all data in mt)

	Fines production	Domestic lumps production	Pellet export requirement	Iron ore exports	Iron ore requirement in sponge iron	Balance	Crude steel production possible under the BF route
FY20	166.89	76.01	14.33	26.38	48.19	154.00	77.00
FY21	141.70	61.59	14.44	46.40	42.98	99.47	49.74
FY22	160.76	65.14	11.70	15.25	48.81	150.13	75.07
FY23	182.90	73.52	6.64	14.96	55.58	179.25	89.62
FY24F	191.44	76.96	10.05	37.00	59.00	162.35	81.18

SOURCE: INCRED RESEARCH, COMPANY REPORTS

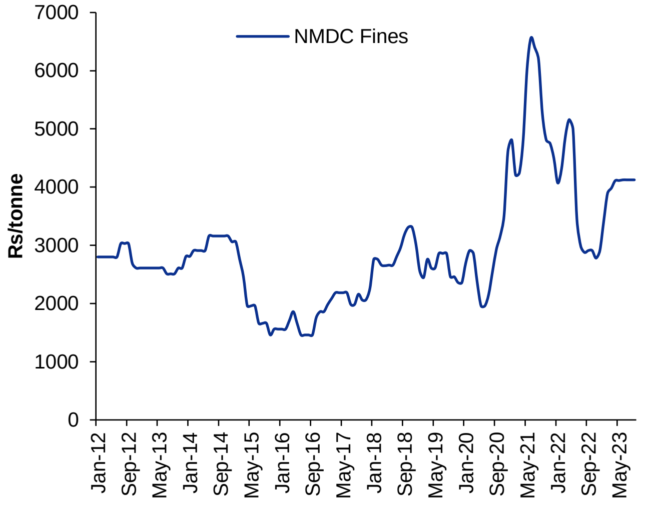
We are already witnessing some signs of a rise in domestic iron ore prices

Figure 29: India Bureau of Mines' (IBM) average India fines price has been on the rise so far in FY24



SOURCE: INCRED RESEARCH, COMPANY REPORTS

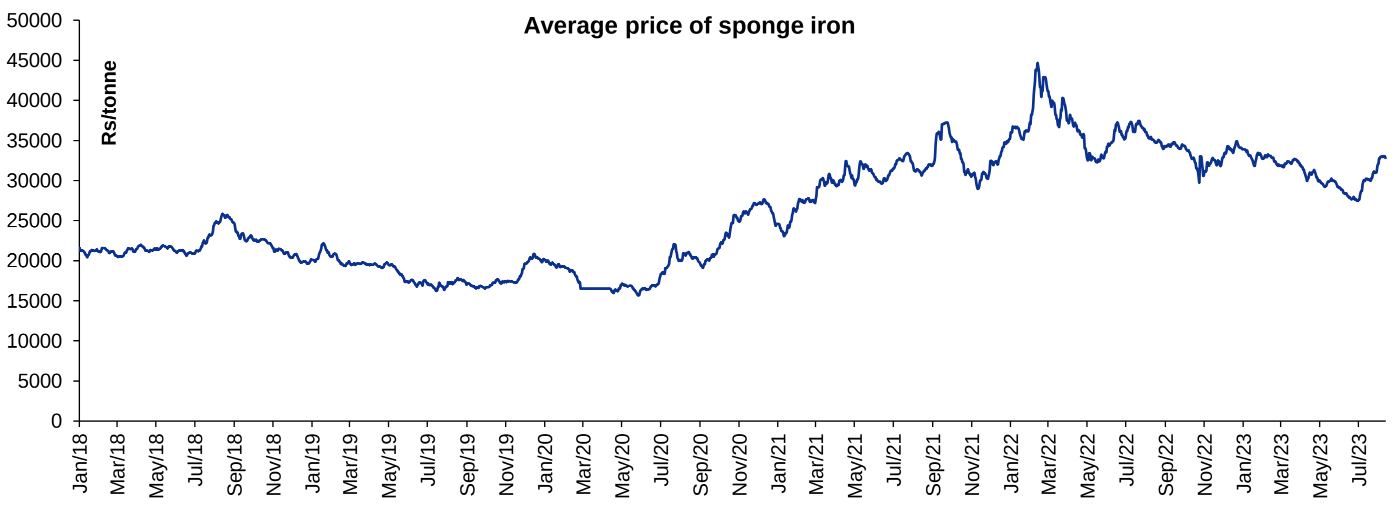
Figure 30: Similarly, NMDC fines price is on the rise again



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Sponge iron prices are also rising

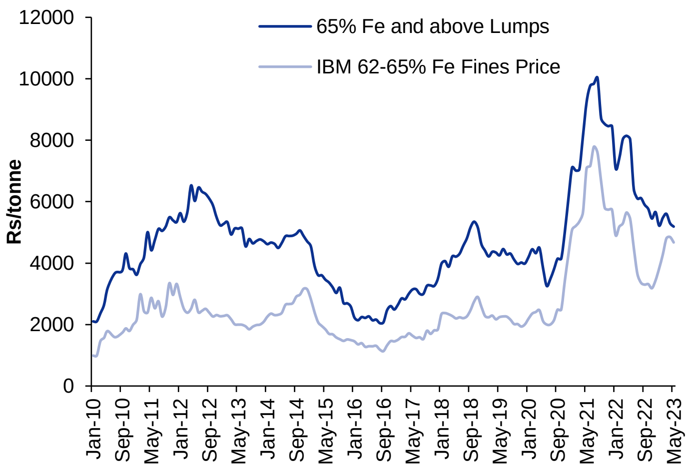
Figure 31: Sponge iron prices are rising in response to free exports and the tight domestic market for iron ore



SOURCE: INCRED RESEARCH, COMPANY REPORTS

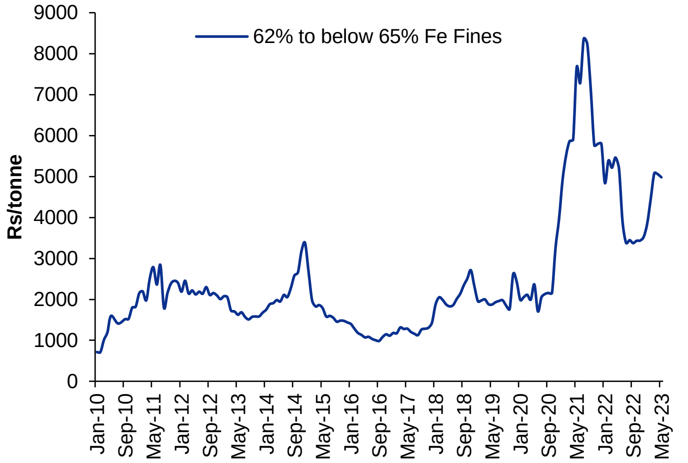
Interestingly, IBM iron ore prices are also at the highest level since the last 17 years

Figure 32: Indian iron ore fines and lump prices are at the highest levels since the last three years



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 33: Odisha was also not different- please note that all the mine-winners cannot operate their mines at the premiums they committed during the bids



SOURCE: INCRED RESEARCH, COMPANY REPORTS

This means the winners at mining auctions will lose huge sums of money if they operate their mines

Figure 34: Details of mine auction winners

	Captive			Merchant	
Name	Premium (%)	EC Limit (mt)	Name	Premium (%)	EC Limit (mt)
JSW Steel	98.55	6.00	JSW Steel	95.20	5.62
ArcelorMittal	107.55	5.50	Serajuddin	118.05	15.15
JSW Steel	132.00	1.20	Shyam	135.00	6.28
Narbheram Power & Steel	90.90	3.50	JSW Steel	110.00	16.50
Kashvi International	150.00	1.00	Patnaik Minerals	92.70	0.04
			Formento	141.25	5.30
			Ghanshyam Mishra & Sons	115.00	0.75
			Vishal LPG	142.35	7.45
			Yazdani Steel	100.00	0.04
			Tarama	93.06	2.50
			Debabrata Behera	154.00	0.14

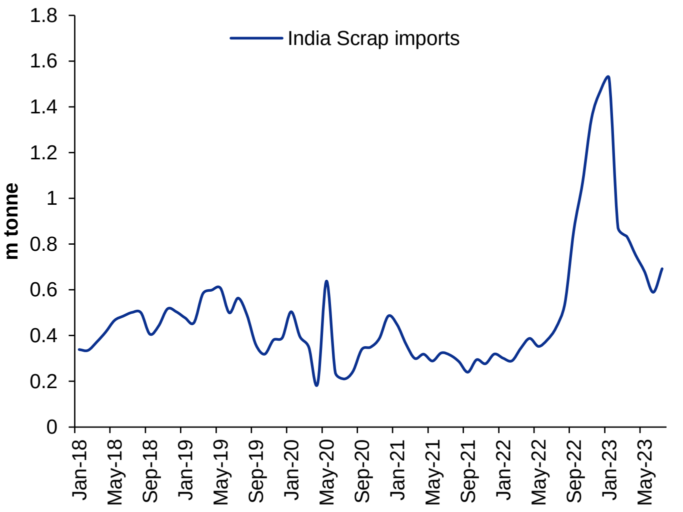
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Hence, all mine auction winners are surrendering their mines

JSW Steel is one of the major steel producers surrendering their mines and we feel other bid-winners may also follow suit in the coming quarters (JSW Steel surrenders iron ore mine lease in Odisha - The Hindu Business Line).

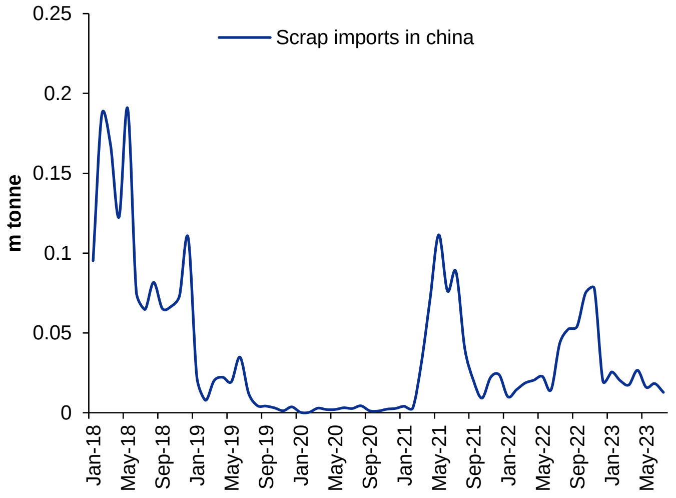
However, this won't raise the international prices of scrap as China is slowing down

Figure 35: Indian scrap imports are on the rise



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 36: However, the slowdown in China is counter-balancing it



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