

# STEEL AUTHORITY OF INDIA LIMITED



## RESULTS PRESENTATION FOR Q1 FY 2021-22



# STEEL AUTHORITY OF INDIA LIMITED

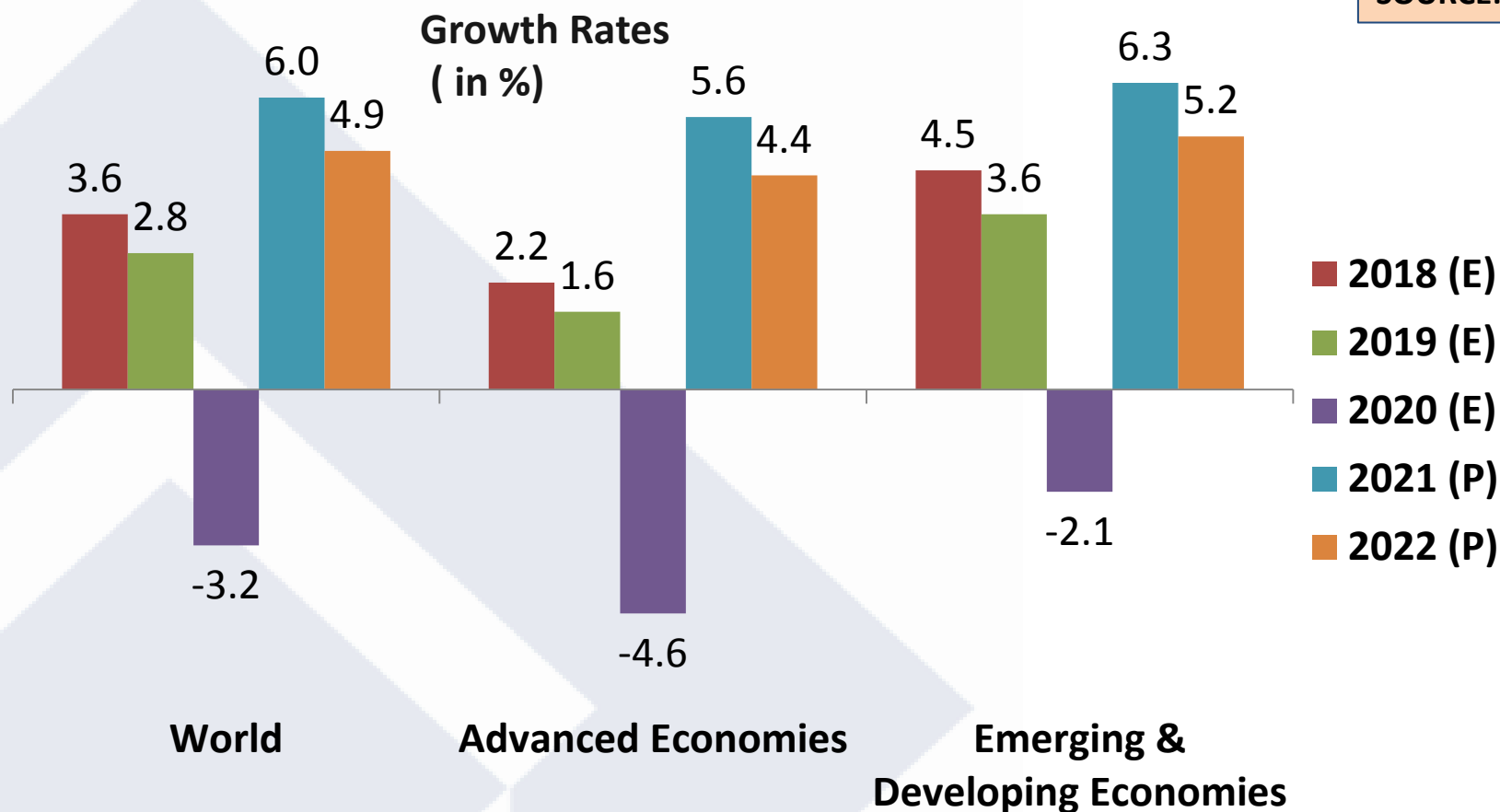


## Economic & Steel Scenarios



# WORLD ECONOMIC SCENARIO

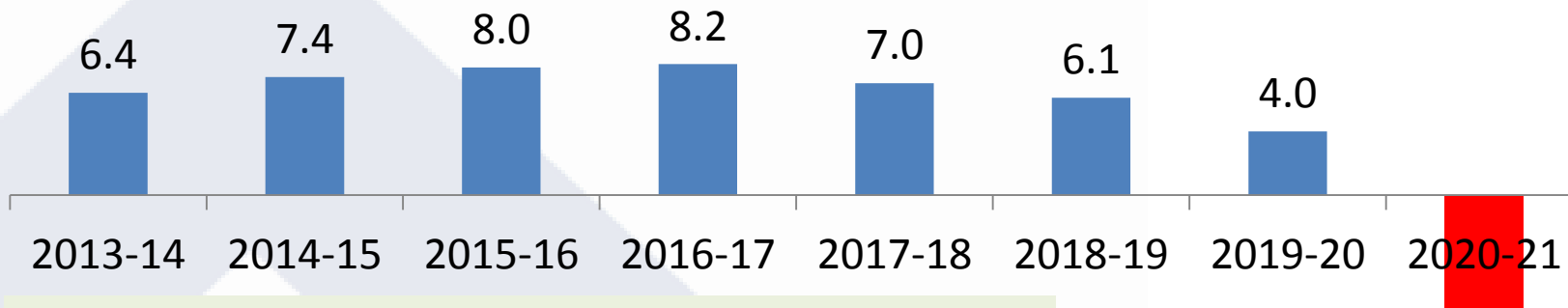
SOURCE: IMF



**IMF projected the growth for 2020 at 2.9% in its Jan 20 World Economic Outlook (WEO). With the lockdown emanating from COVID19 Pandemic, the projections became negative to almost 4.9%. The figure has since been revised to -3.2% with growth projections for 2021 improving to 6.0% which is expected to moderate to 4.9% during 2022.**

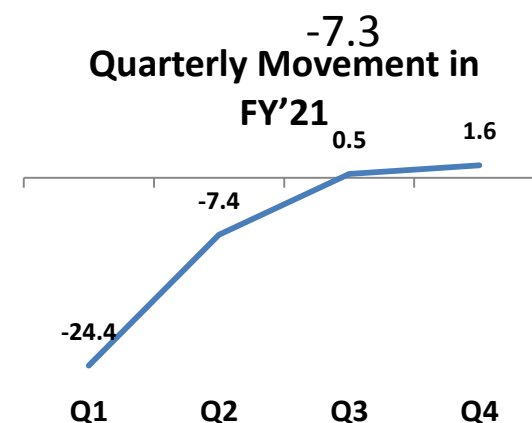
SOURCE: CSO, GoI & Economic Survey

## GDP Growth % at Constant Prices (2011-12 Prices)



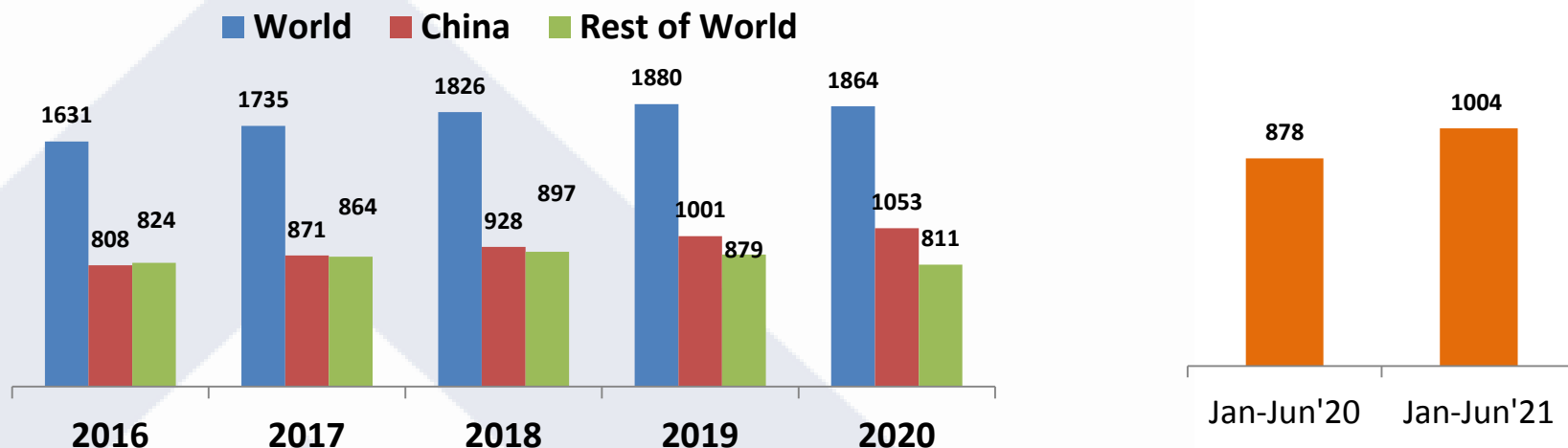
*The Indian economy contracted during first two quarters FY 2020-21 (-24.4% and -7.3% being the GDP during Q1 and Q2 respectively). As the economic activities increased, GDP during Q3 and Q4 turned positive at 0.5% and 1.6% respectively giving the annual performance at -7.3.*

*Last available projections from major financial agencies for further years are as follows:*

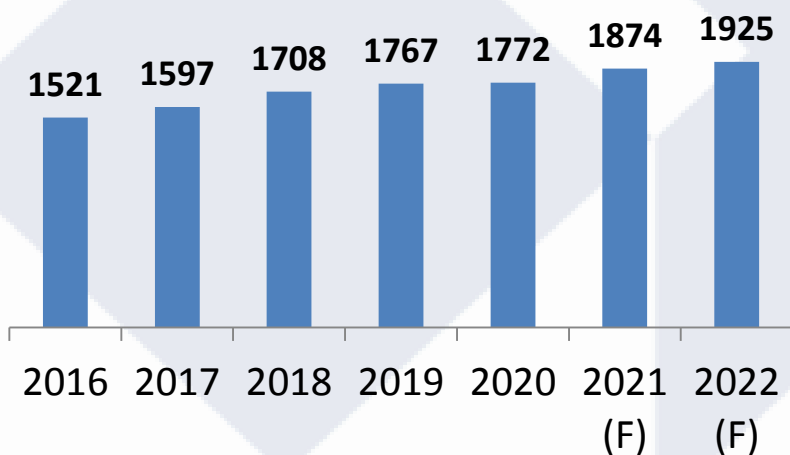


Source	Growth Projection
WORLD BANK	8.3% (FY22)
IMF	9.5% (CY21) & 8.5% (CY22)
RBI	9.5% (FY22)

## Crude Steel Production (mtpa)



## Finished Steel Consumption (mtpa)



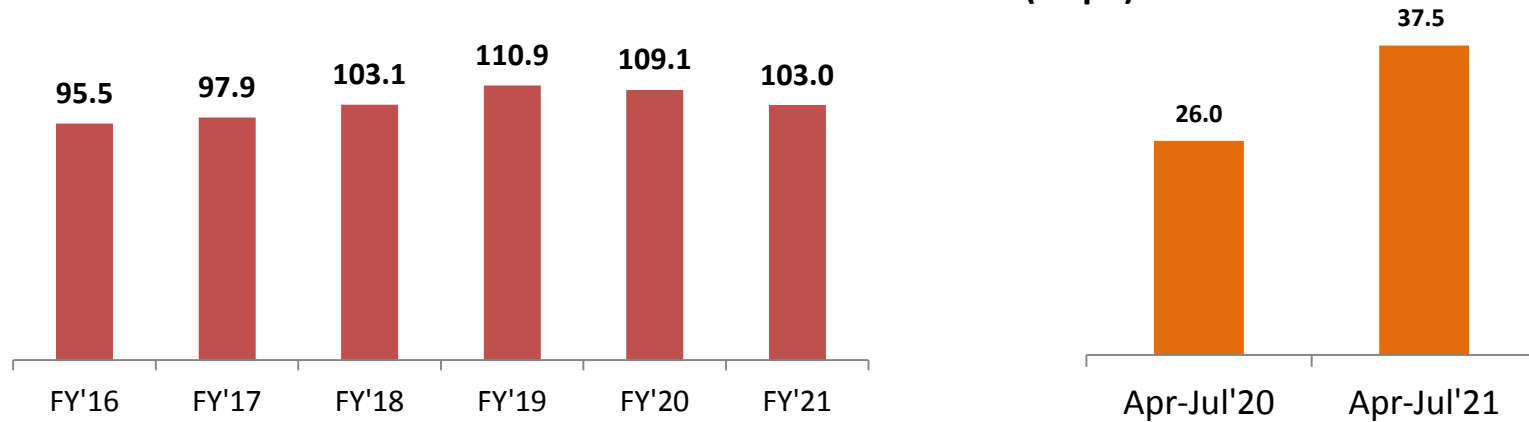
SOURCE: World Steel Association (WSA)

### Short Range Outlook (SRO) April'21:

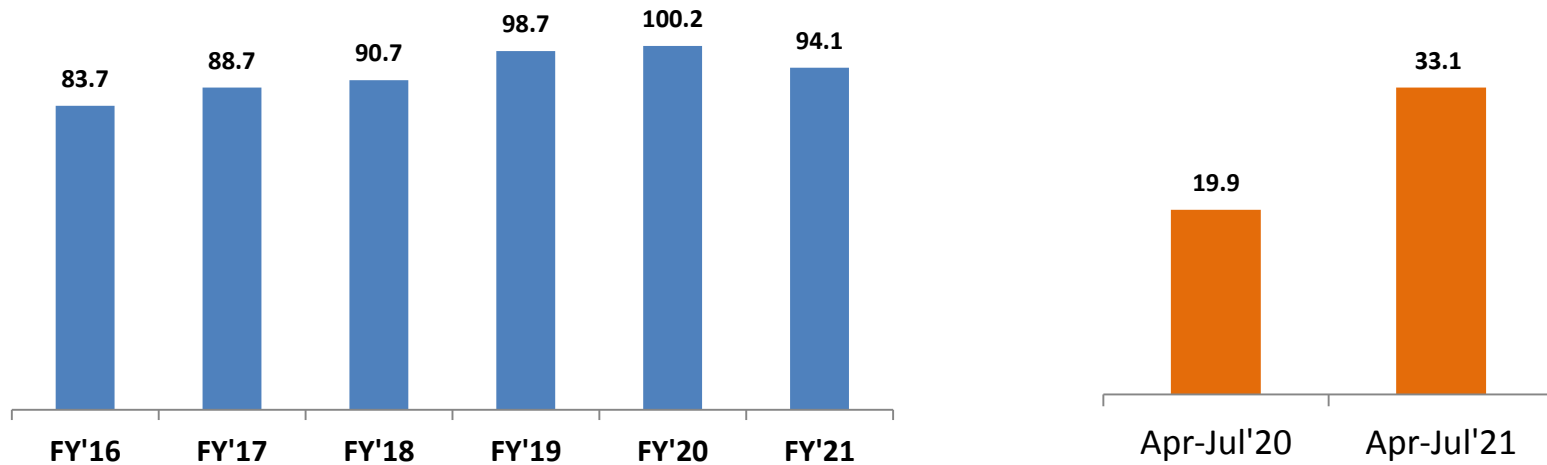
- Global steel demand is expected to increase by 5.8% in 2021 and 2.7% in 2022.
- China's growth is set to go down to 3% in 2021 which will further come down to 1% in 2022.
- The global growth rate excluding China is expected to be 9.3% in 2021 and 4.7% in 2022.
- In the Emerging and Developing Economies excluding China, steel demand is expected to grow by 10.2% in 2021 and 5.2% in 2022.
- The developed economies are expected to see growth in steel consumption at 8.2% in 2021 and 4.2% in 2022.

# INDIAN STEEL SCENARIO

## Crude Steel Production (mtpa)



## Finished Steel Consumption (mtpa)



As per the WSA Short Range Outlook of April'21, demand in India is projected to increase by 19.8% in 2021 and 5.9% in 2022.

# INDIAN STEEL PERFORMANCE

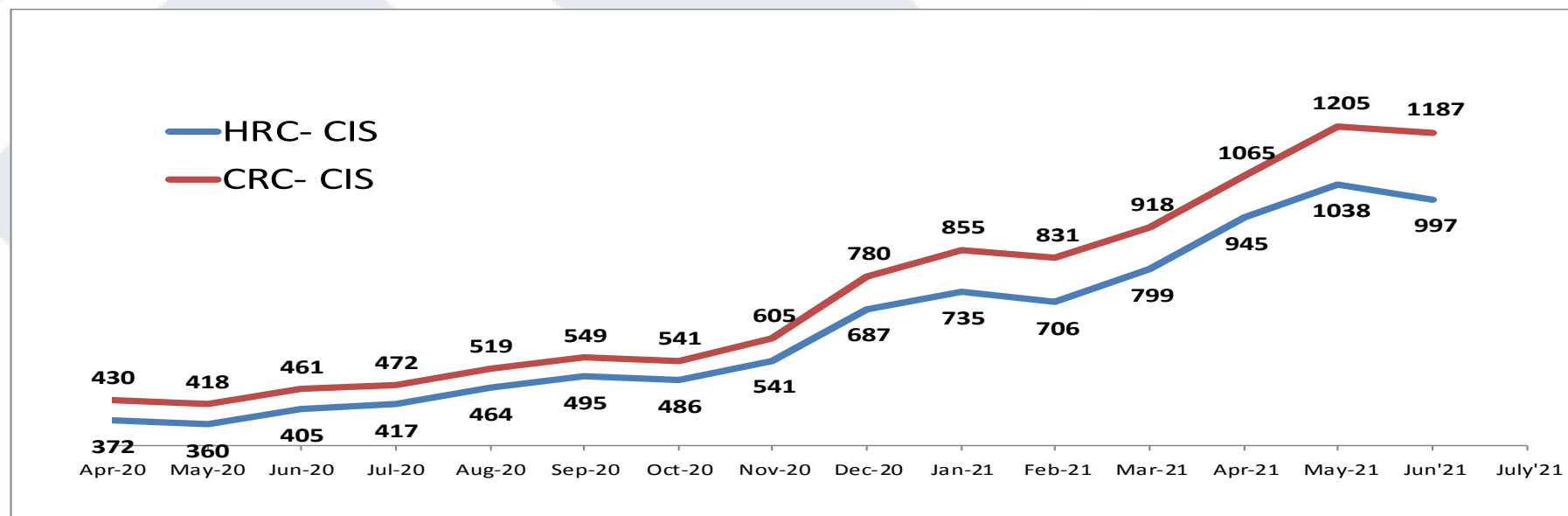
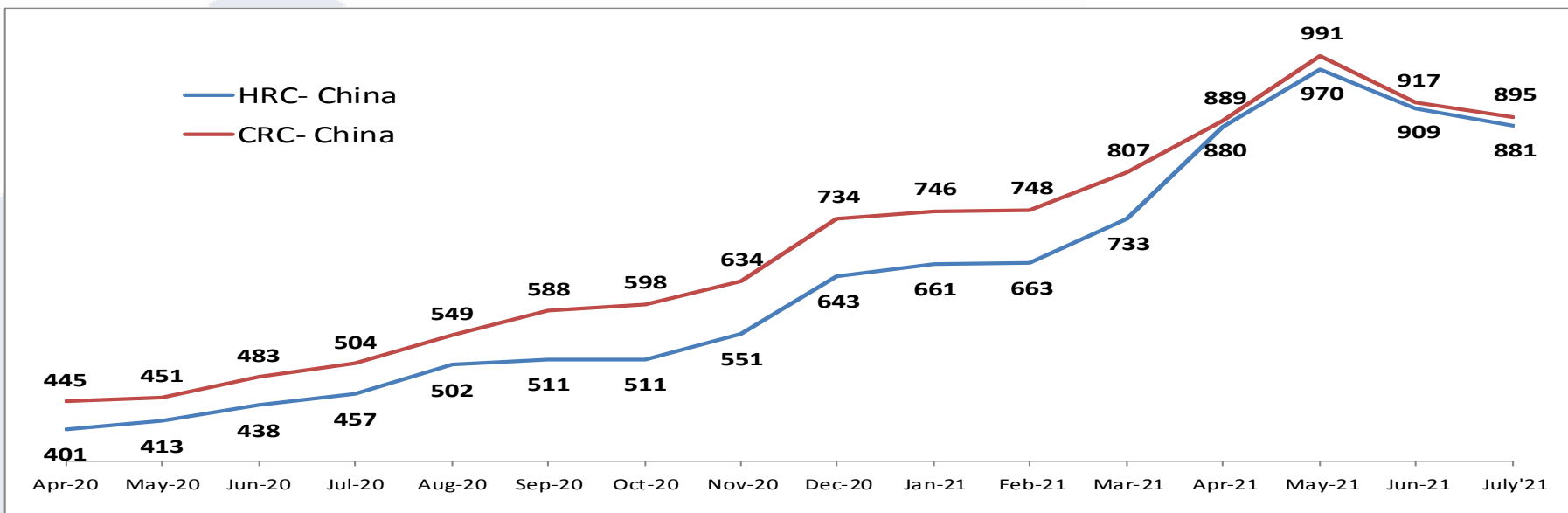
INDICATORS	UNIT	Q1 21-22	Q1 20-21	% +/- Over CPLY
Growth in Index of Industrial Production ^	%	68.8	-45.0	113.80
Production - Finished Steel *	MT	26.33	14.03	87.6
Imports - Finished Steel *	MT	1.16	1.21	-4.5
Exports - Finished Steel *	MT	3.56	3.27	8.9
Consumption - Finished Steel *	MT	23.93	11.98	99.8
Less Variation in Stock *	MT	-0.91	-0.25	259.1
Real Consumption of Finished Steel *	MT	24.85	12.24	103.1

^ As per CSO Data for April-May FY'22

\*Source JPC Report

# INTERNATIONAL PRICE (FOB) TREND

USD/Tonne





# STEEL AUTHORITY OF INDIA LIMITED



## Performance Highlights



# PERFORMANCE HIGHLIGHTS : Q1 FY'22

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## **FINANCIAL PERFORMANCE**

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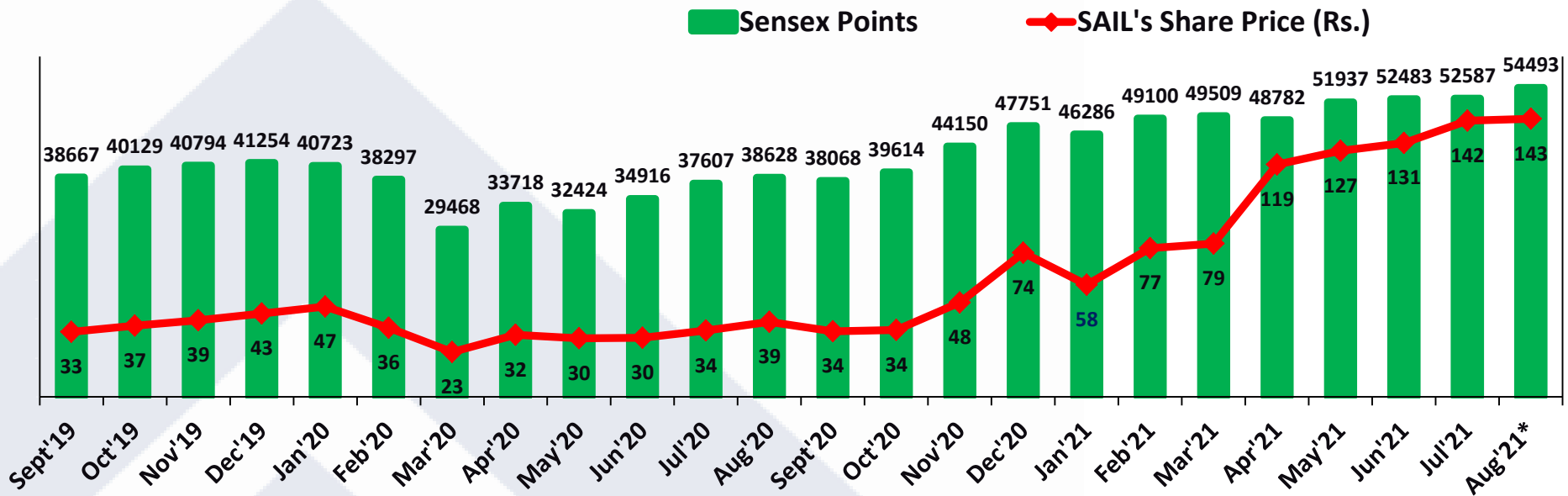
- ❖ Net Sales : Rs. 20498 Crore
- ❖ EBITDA : Rs. 6674 Crore
- ❖ PBT : Rs. 5145 Crore
- ❖ PAT : Rs. 3850 Crore

## **PRODUCTION & SALES PERFORMANCE**

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- ❖ Hot Metal Production : 4.135 MT
- ❖ Crude Steel Production : 3.770 MT
- ❖ Saleable Steel Production : 3.770 MT
- ❖ Semis component in production : 20.96% of saleable steel
- ❖ Value Added Production : 1.702 MT
- ❖ Production through concast route : 3.681 MT
- ❖ Saleable Steel Sales : 3.327 MT

# SAIL STOCK PRICE MOVEMENT



Closing Share Price and Sensex as on the last day of the month

\* As on Aug 5, 2020

## DIVIDEND PAYOUT

SAIL Board of Directors has recommended a Final Dividend of 18% for the FY'21.

	Interim (%)	Final (%)	Total (%)	Dividend (Rs. crore)	Dividend Tax (Rs. crore)
FY 21	10	-	10	413	-
FY 20	-	-	-	-	-
FY 19	-	5	5	206	-
FY 18	-	-	-	-	-
FY 17	-	-	-	-	-
FY16	-	-	-	-	-
FY15	17.5	2.5	20	826	165
FY14	20.2	-	20.2	834	142

# STEEL AUTHORITY OF INDIA LIMITED



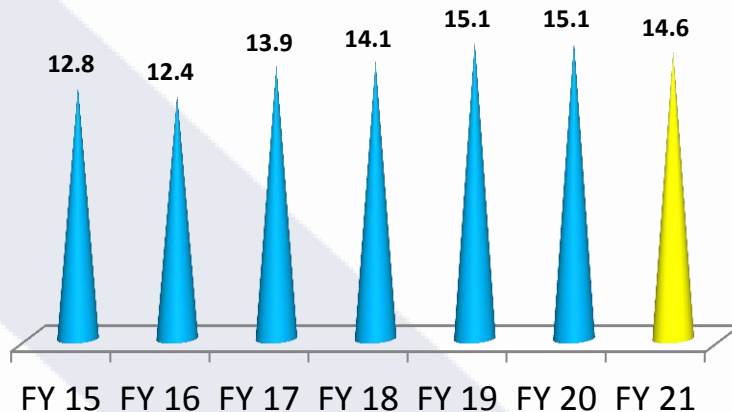
## Operational Performance



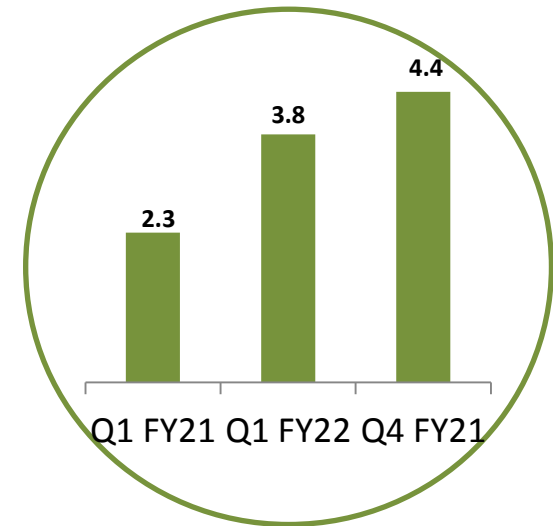
# PRODUCTION PERFORMANCE

All figures In Million Tonne

## SALEABLE STEEL PRODUCTION (incl. SSPs)

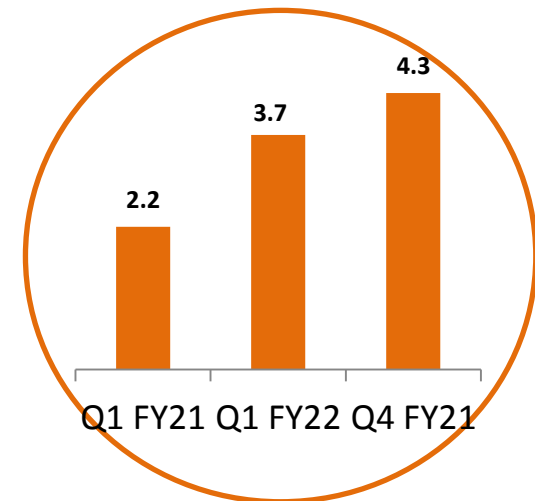
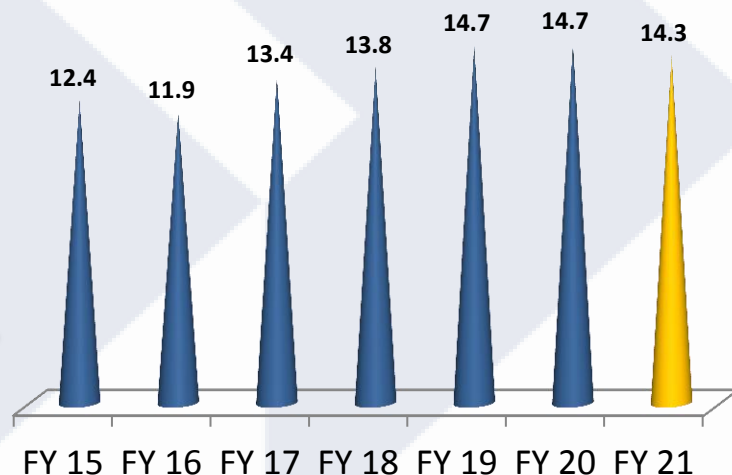


Annual



Quarterly

## SALEABLE STEEL PRODUCTION (5 ISPs)

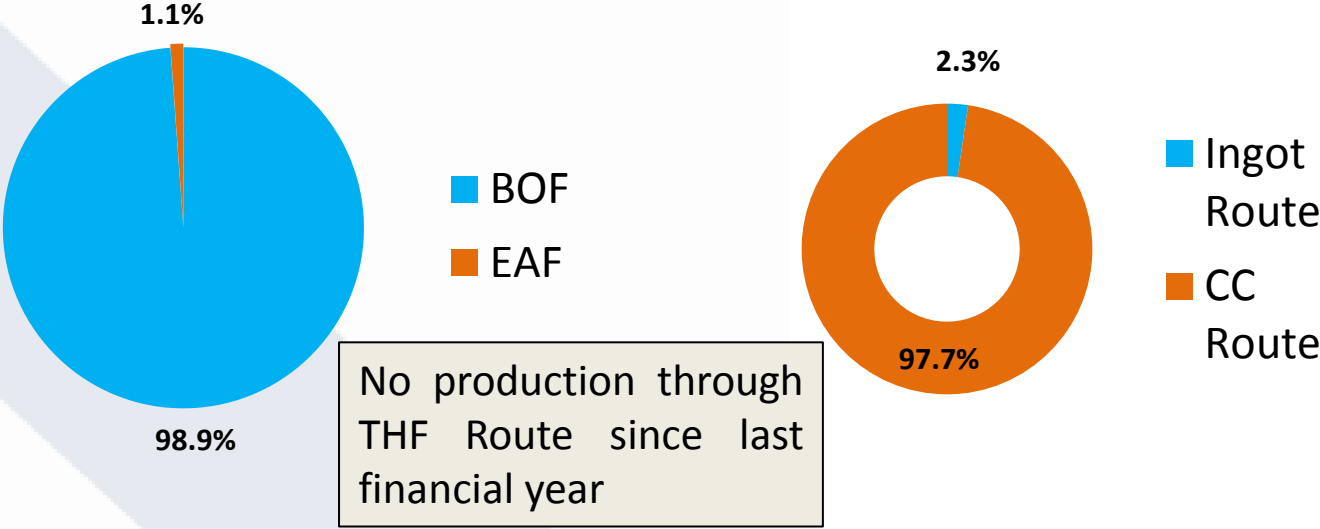


Production had been affected on account of COVID-19 impact during Q1 FY21 as well as Q1 FY'22

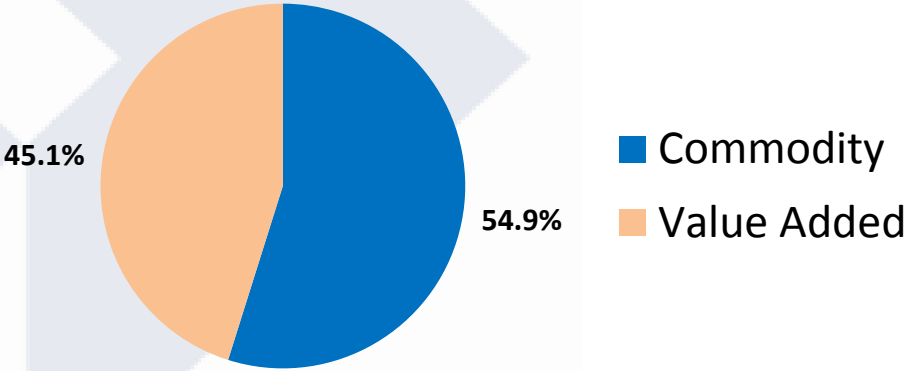
# PRODUCTION PERFORMANCE : FY'22



## CRUDE STEEL PRODUCTION BY PROCESS

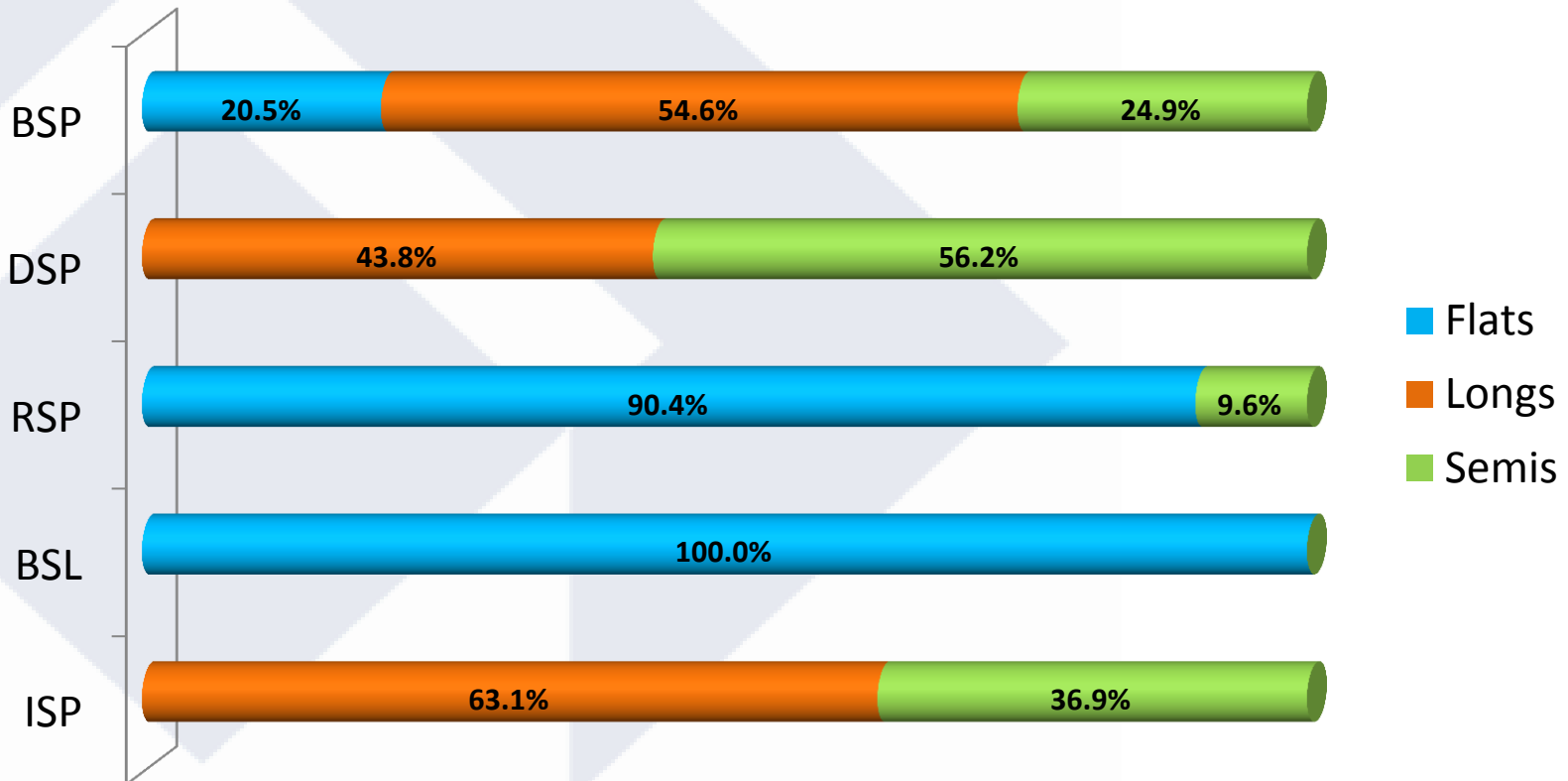
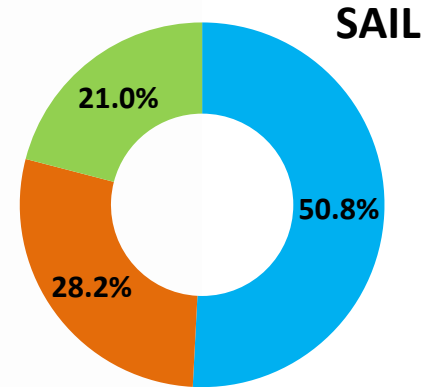


## SALEABLE STEEL PRODUCTION BY PROCESS



# PRODUCTION PERFORMANCE : FY'22

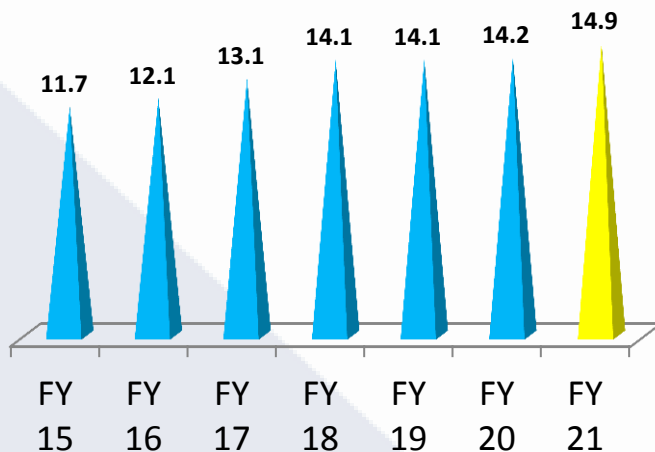
## PRODUCT MIX : 5 ISPs



# SALES PERFORMANCE

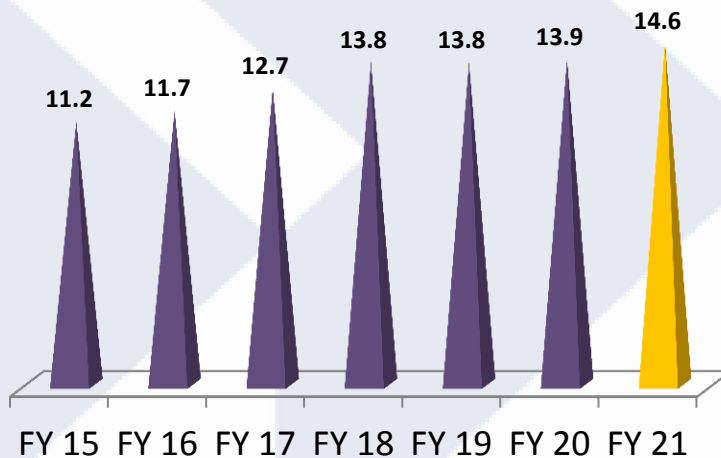
All figures In Million Tonne

## TOTAL SALES (incl. SSPs)

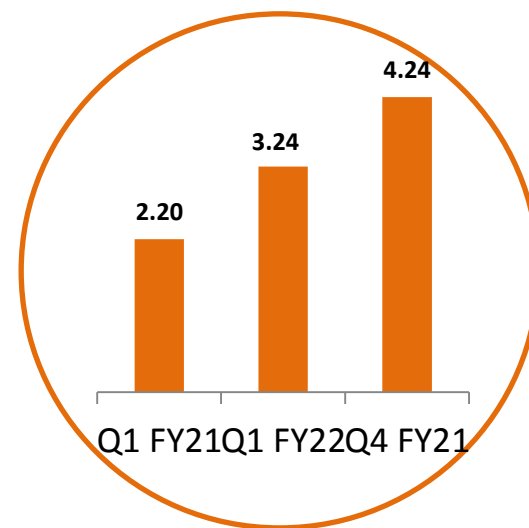
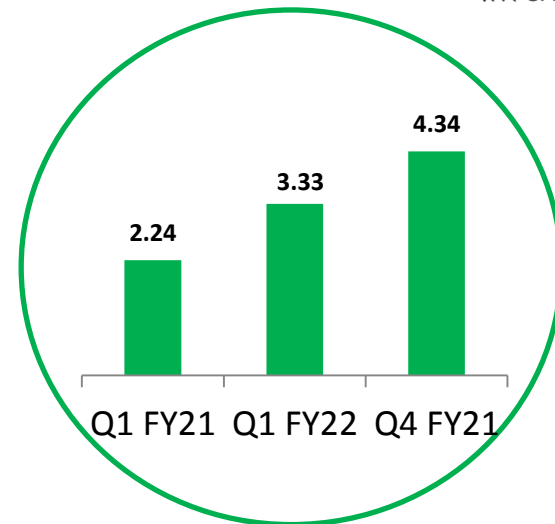


Annual

## SALES OF 5 ISPs



Quarterly





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**Efficiency &  
Sustenance  
Performance**

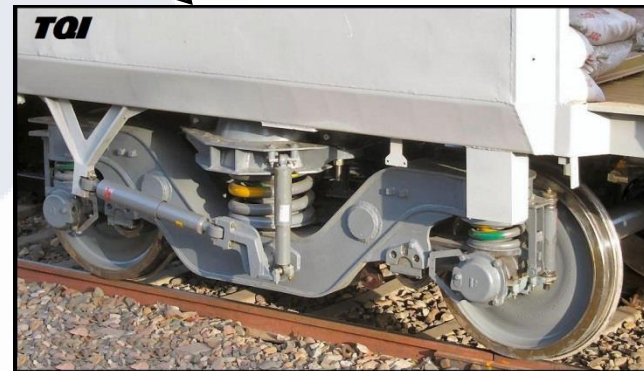


# RECENTLY DEVELOPED PRODUCTS

NARROW PARALLEL  
FLANGE BEAM 750:  
USAGE IN  
CONSTRUCTION  
INDUSTRY



LINKE HOFMANN  
BUSCH (LHB) WHEELS:  
USAGE FOR RAILWAYS



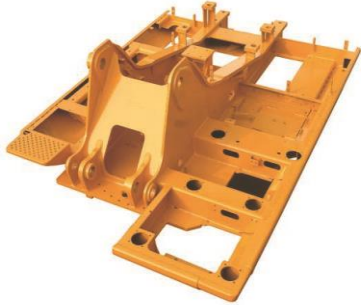
# PRODUCT CUSTOMISATION FOR END USERS

## HYVA TIPLERS



HSMP AND PMP  
GRADE: IS  
2062E450, E600

Main Frame



Track Frame



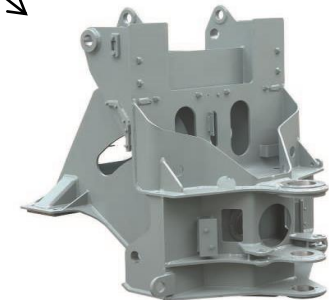
Boom



Arm



Front Frame



# PRODUCT CUSTOMISATION FOR END USERS

## ASHOK LEYLAND

**U TRUCK  
U 2518T**



HRC PMP  
GRADE: IS5986,  
ISH500,  
LAHFQ450

**CAPTAIN 2518**





Rear Axle Beam developed using HRC SAILFORMING 410 / 450 grades

Live Axle Beam

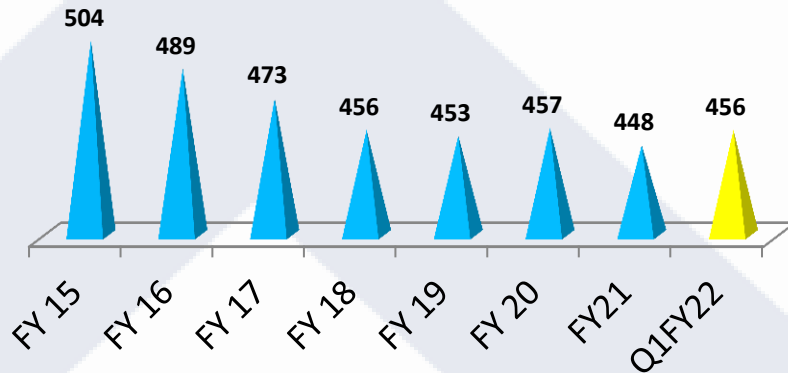


Dummy Axle Beam



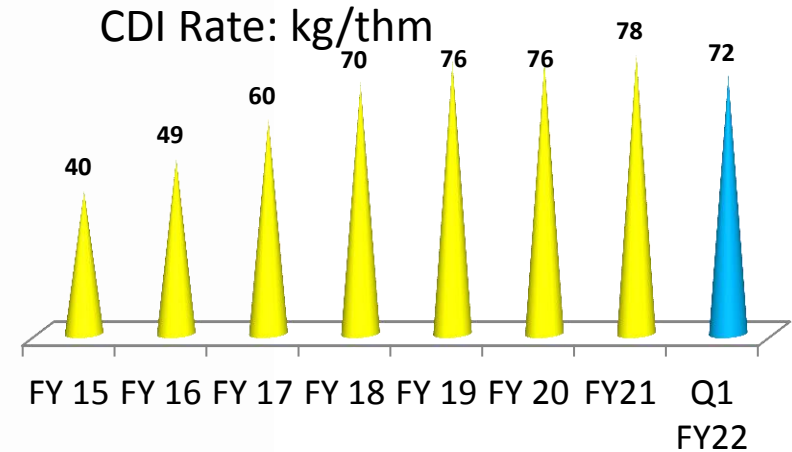
# TECHNO-ECONOMIC PARAMETERS

Coke Rate: kg/thm



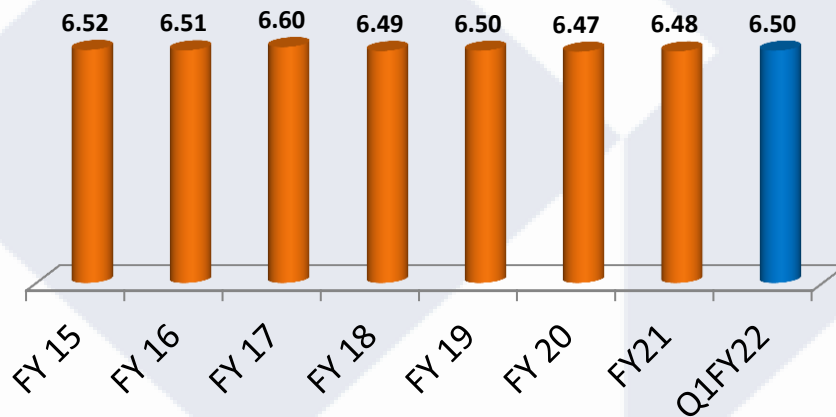
Reduction of 10% over FY15

CDI Rate: kg/thm



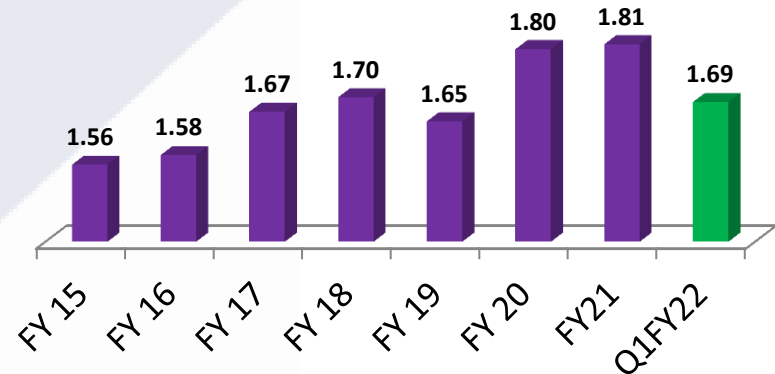
Increase of 80% over FY15

Specific Energy Consumption: GCal/tcs



Reduction of 0.3% over FY15

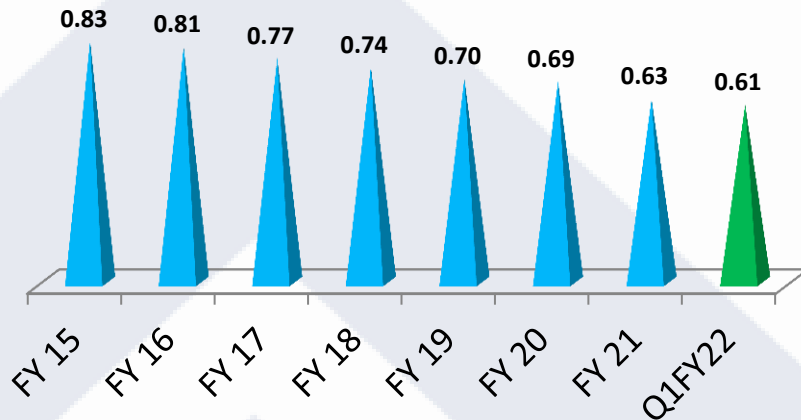
BF Productivity: T/m<sup>3</sup>/Day



Improvement of 8% over FY15

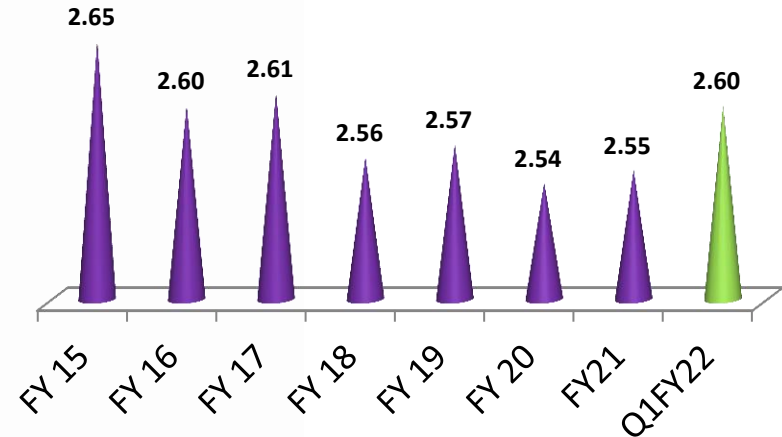
# SUSTAINANCE PARAMETERS

PM Emission Load: kg/tcs



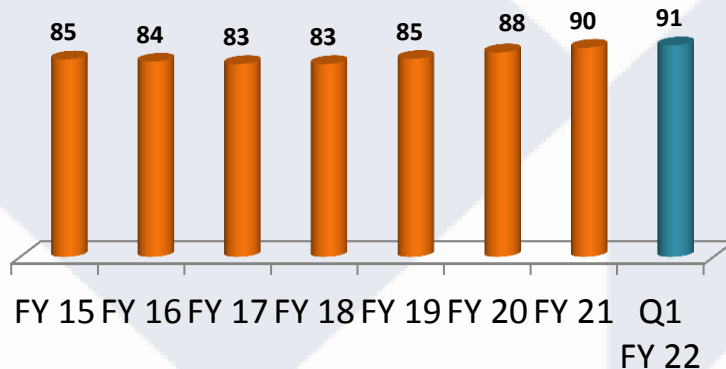
Reduction of 27% over FY15

Specific CO2 Emission: T/tcs



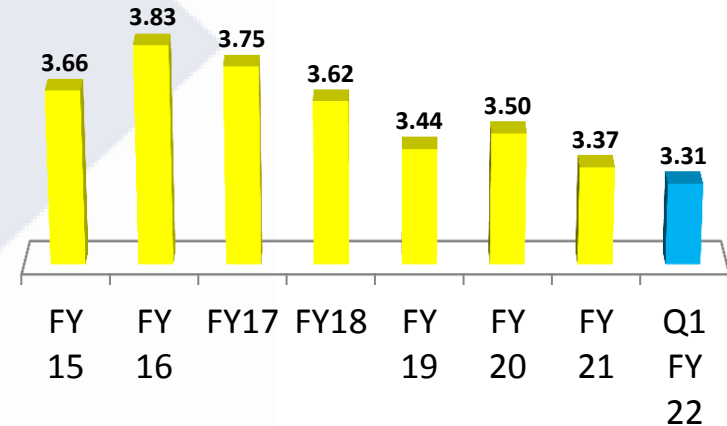
Reduction of 2% over FY15

Solid Waste Utilisation (%)



Increase of 7% over FY15

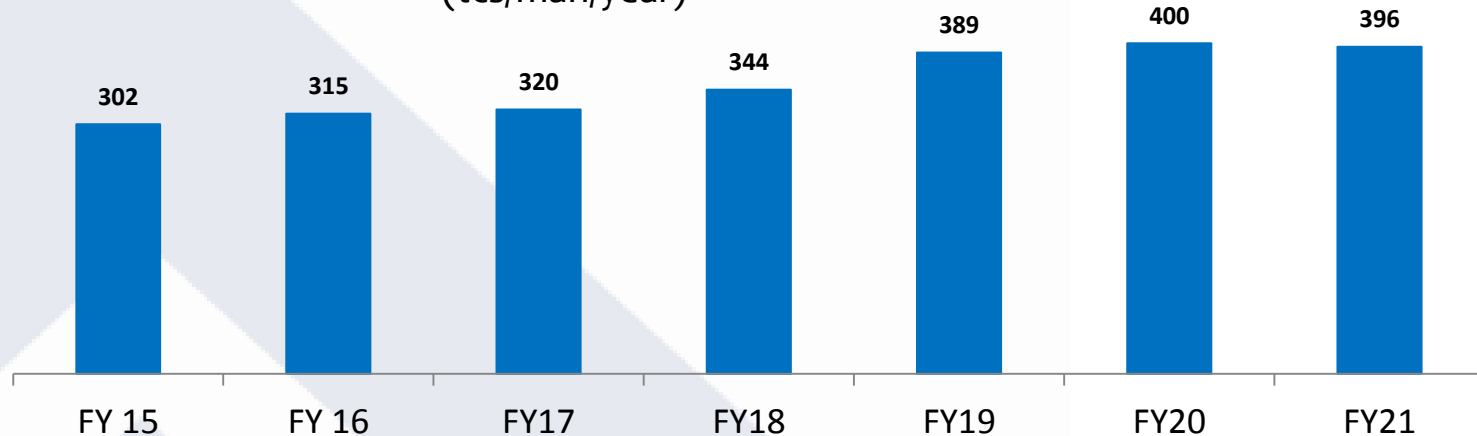
Specific Water Consumption: m3/tcs



Reduction of 10% over FY15

# MANPOWER PERFORMANCE

## LABOUR PRODUCTIVITY TREND (tcs/man/year)



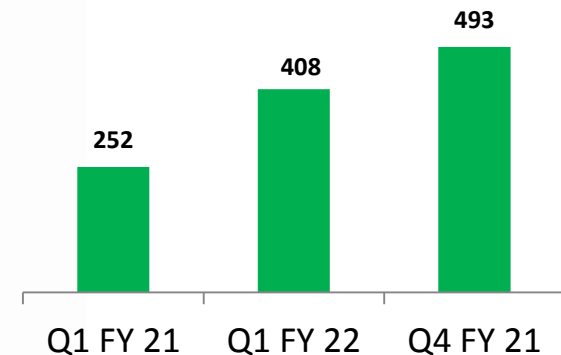
Improvement of 31% over FY15

## MANPOWER

Total manpower as on 01.07.2021: **64139**

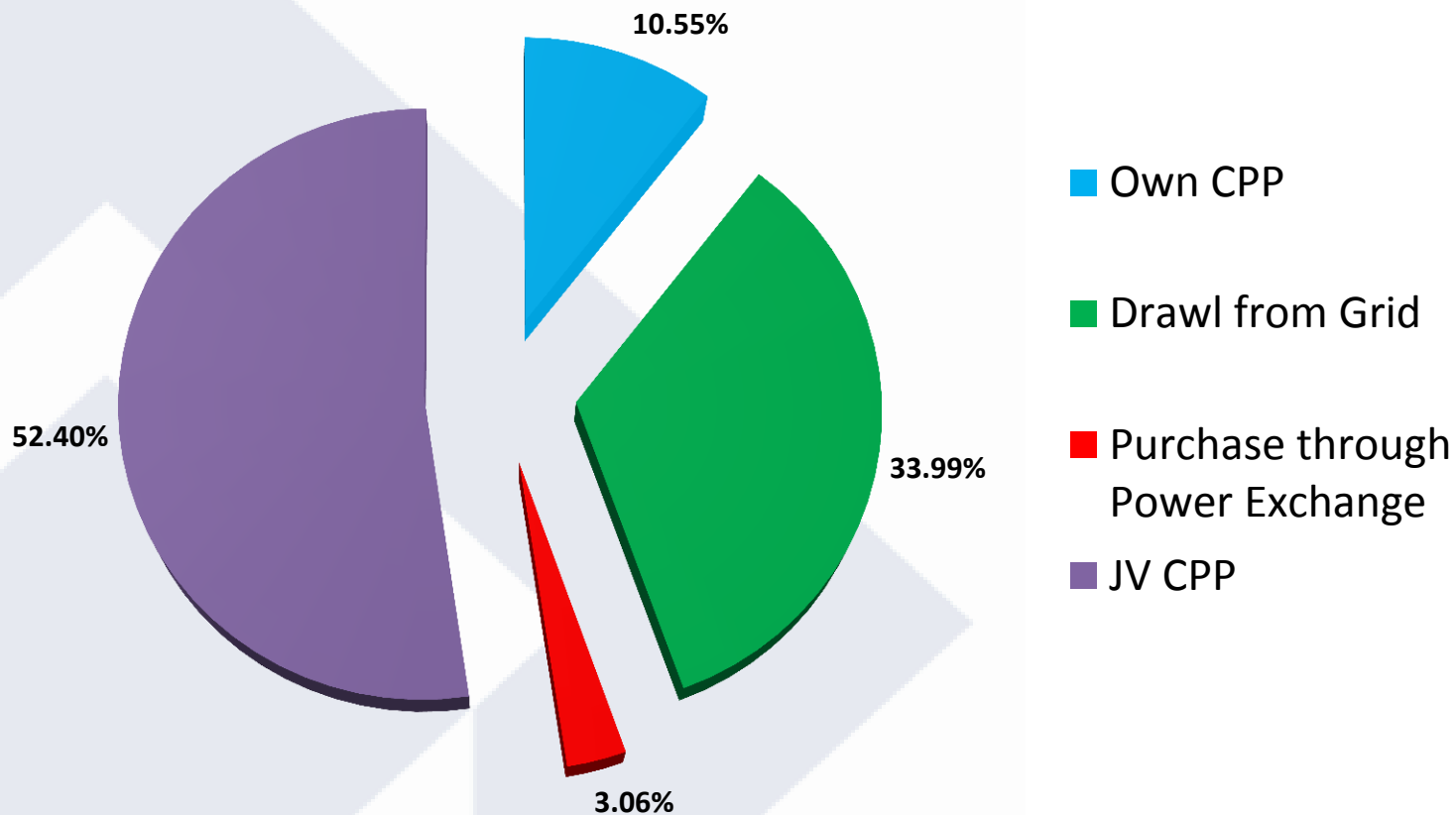
Reduction in Q1 FY'22: **1425**

## LABOUR PRODUCTIVITY Q4 FY'21 VIS-À-VIS CPLY AND PREVIOUS QUARTER (tcs/man/year)





# POWER CONSUMPTION – FY 21



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## Financial Performance



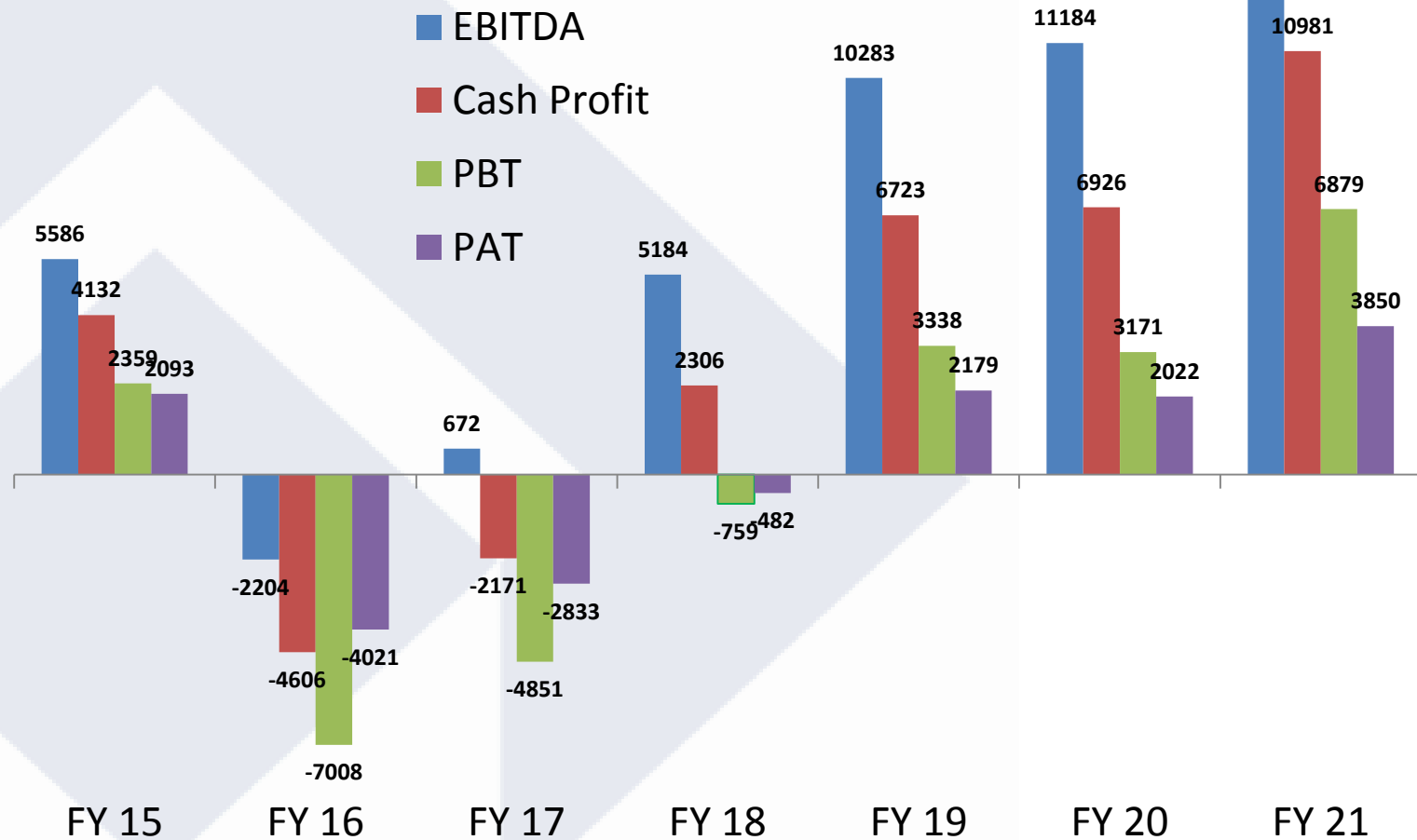
# FINANCIAL PERFORMANCE

<b>Rs. Crore (INDAS Compliant figures)</b>	<b>Q4 FY 21</b>	<b>Q1 FY 22</b>	<b>Q1 FY 21</b>
<b>Sales</b>	23166	20498	8838
<b>EBITDA</b>	6473	6674	-125
<b>Depreciation</b>	1158	1026	973
<b>Finance Cost</b>	540	503	886
<b>PBT Before Exceptional Items</b>	4775	5145	-1985
<b>Exceptional/Abnormal Items (VRS/Suspended Operations)</b>	166	-	-
<b>PBT After Exceptional Items</b>	4608	5145	-1985
<b>Tax</b>	1165	1295	-714
<b>Profit After Tax</b>	3444	3850	-1270

# FINANCIAL PERFORMANCE

## Annual Profit Trend

*All figures in Rs crore*

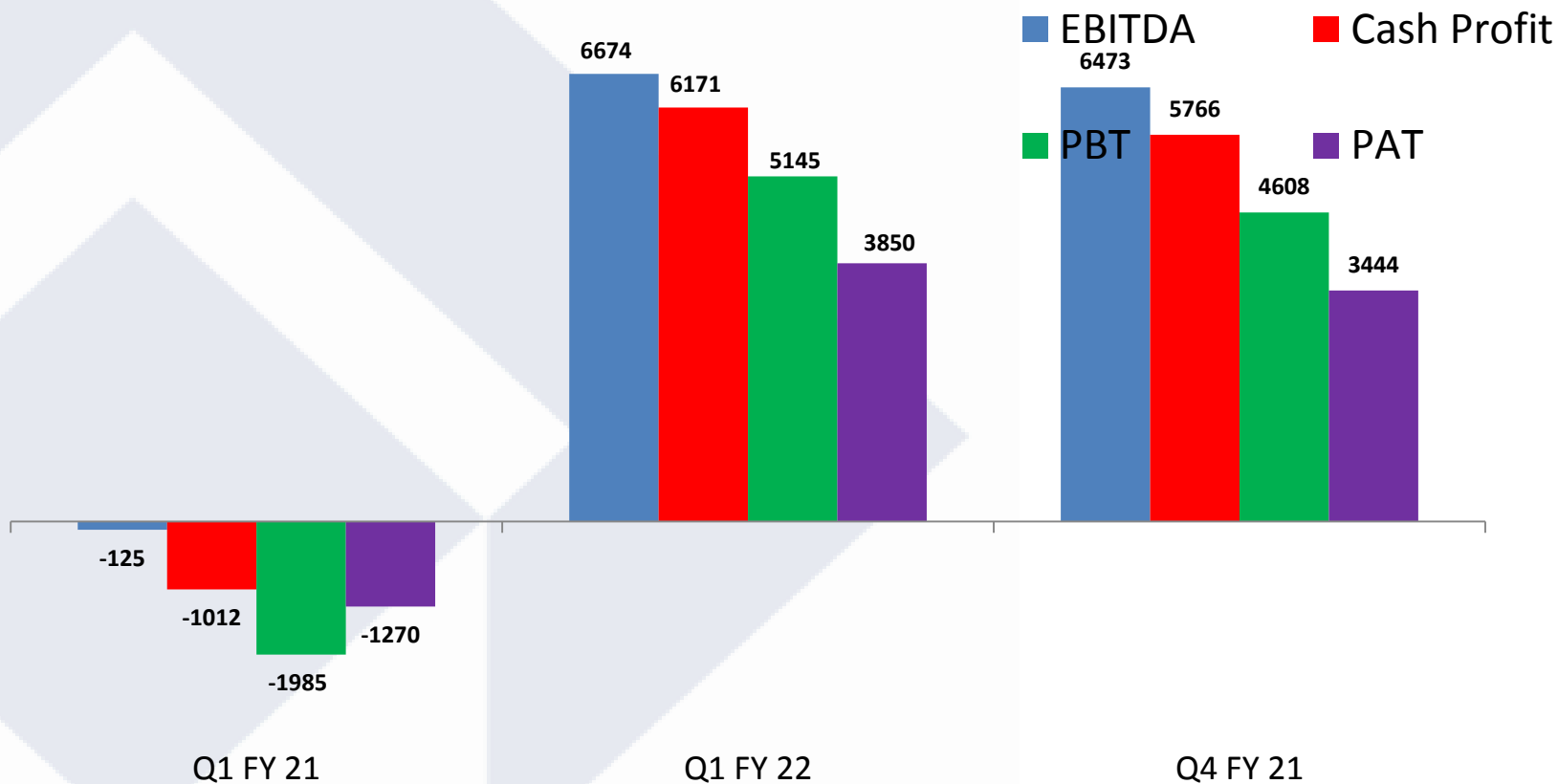


# FINANCIAL PERFORMANCE

## Quarterly Performance

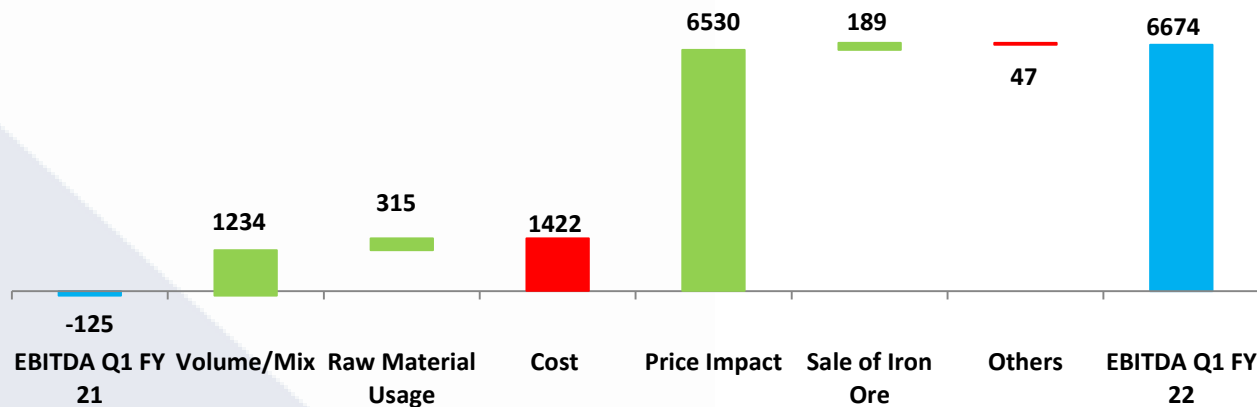
Q1 FY 21 vs Q1 FY 22 vs Q4 FY 21

*All figures in Rs crore*



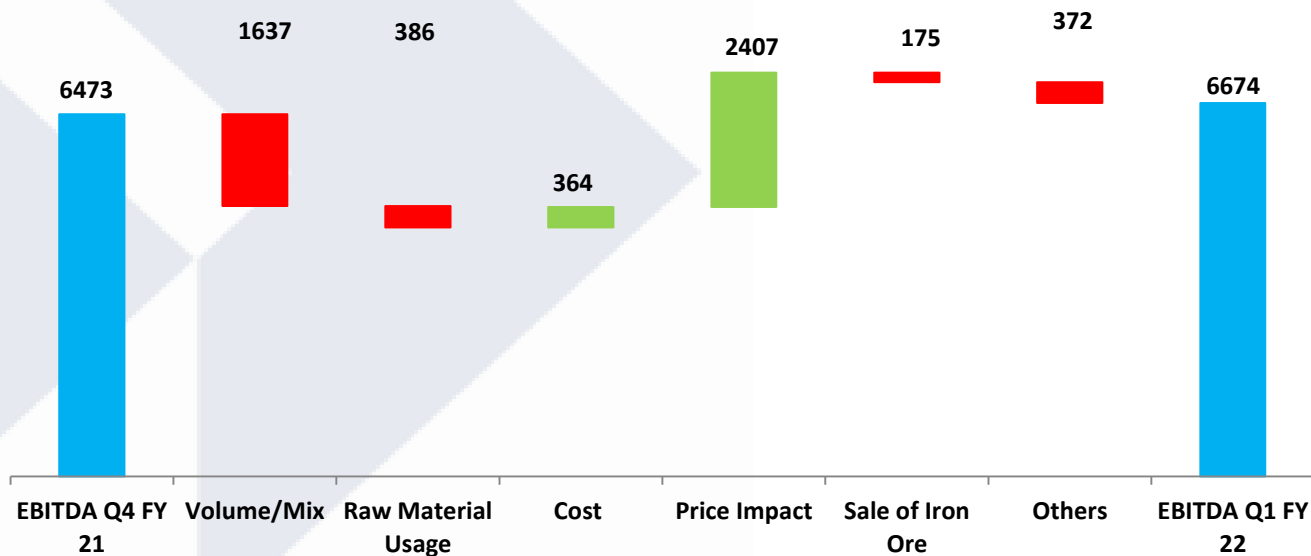
# FINANCIAL PERFORMANCE

## EBITDA Movement Q1 FY 22 vs Q1 FY 21



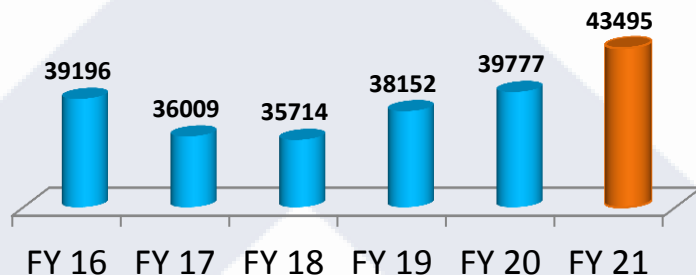
*All figures in Rs crore*

## EBITDA Movement Q1 FY 22 vs Q4 FY 21

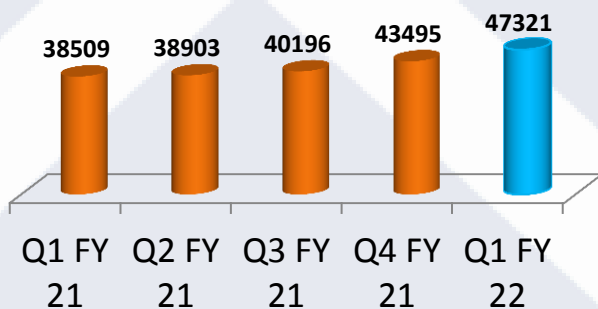


# FINANCIAL PERFORMANCE

## Annual Net Worth

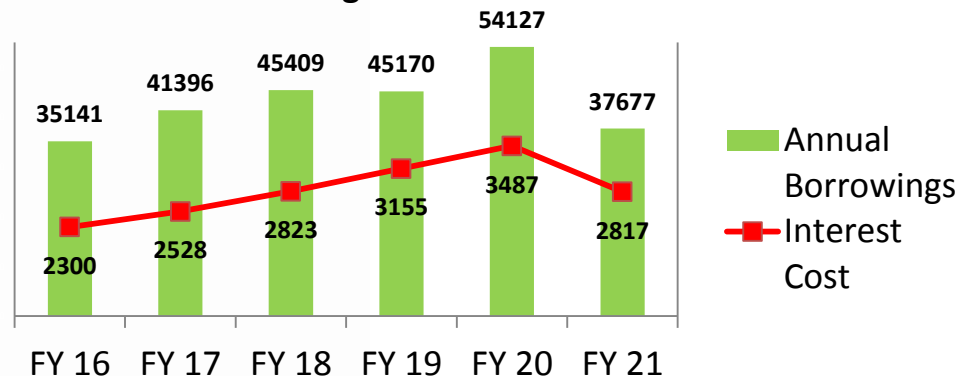


## Quarterly Net Worth

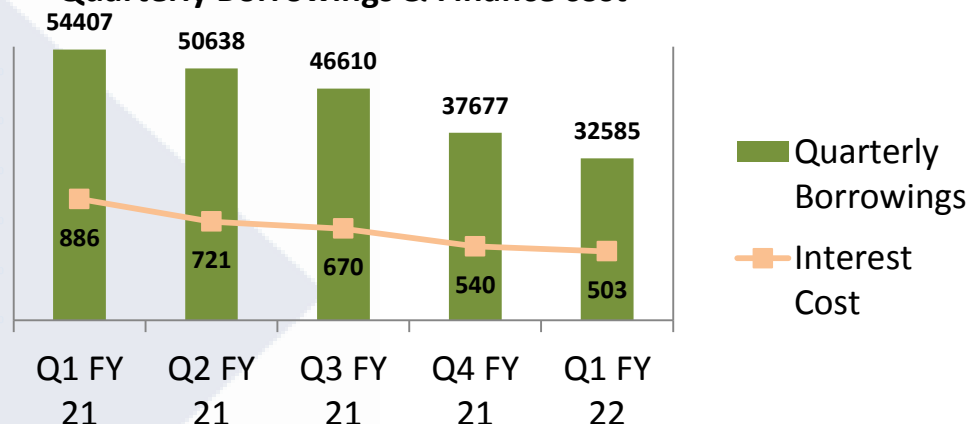


All figures in Rs. crore

## Annual Borrowings & Finance cost



## Quarterly Borrowings & Finance cost



## Debt Equity Ratio

31/3/16	31/3/17	31/3/18	31/3/19	31/3/20	31/3/21	30/6/21
0.90	1.15	1.27	1.18	1.36	0.87	0.69

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## Capacity Building



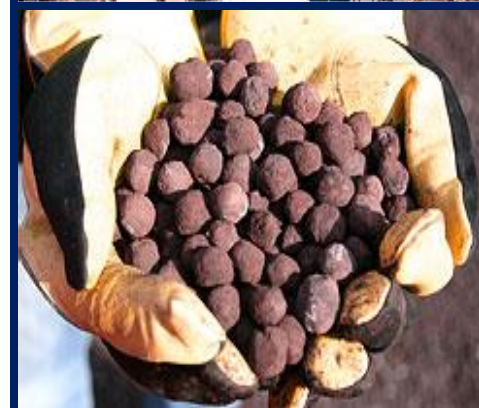


# SAIL's MODERNISATION & EXPANSION PLAN

Million Tonne	Actual Production 2020-21	Capacity After On-going Expansion
Crude Steel	15.215	21.4
Saleable Steel	14.602	20.2

## Technological Shift

Technology	Before Expansion	After Expansion
BOF Steel Making	79%	100%
CC Route	71%	94%
Pelletisation Plant	No	Yes
Coke Dry Quenching	Partial	Yes
Top Pressure Recovery Turbine	No	Yes
Auxiliary Fuel Injection in BF	Partial Coverage	Full Coverage
Desulphurization of Hot Metal	Partly	100 %
Beam Blank Casting	No	Yes
Coupled Pickling & Tandem Mill	No	Yes
Beneficiation Plant	Partial	Full



# MODERNISATION & EXPANSION PLAN

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## EXPECTED OUTCOME

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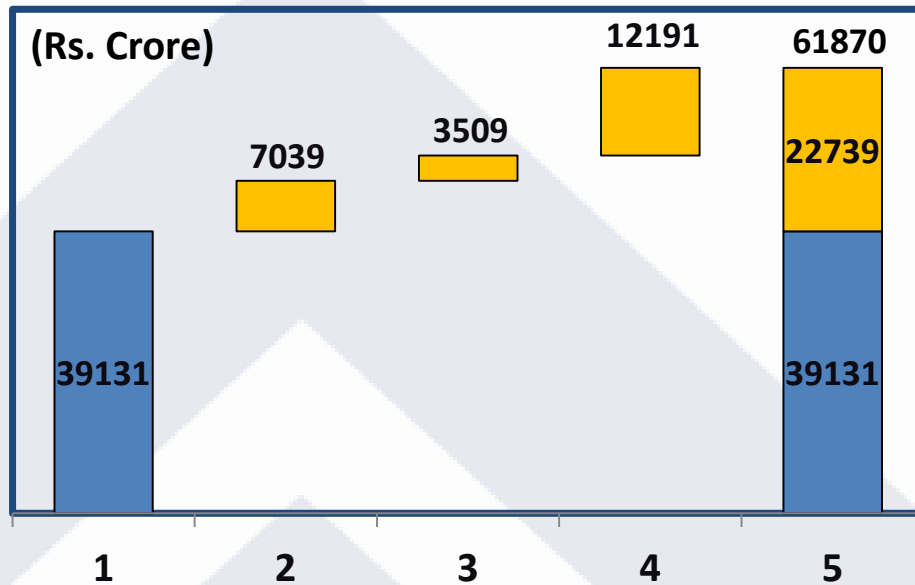
- Production through twin-hearth furnace (THF) route to be replaced by BOF-LD converter route.
- Production through Ingot – teeming route to be replaced with continuous cast production route.
- Enhancement of Production volume by addition of 2 new 4060 m<sup>3</sup> Blast Furnaces and one Blast Furnace of 4160 m<sup>3</sup>.
- Increased Market Share.
- World class technology and products.
- Improved Product Mix / proportion of value added products to increase.
- Enhanced Pollution Control measures, with Environmental Conservation.

## PRODUCTS BEING ADDED:

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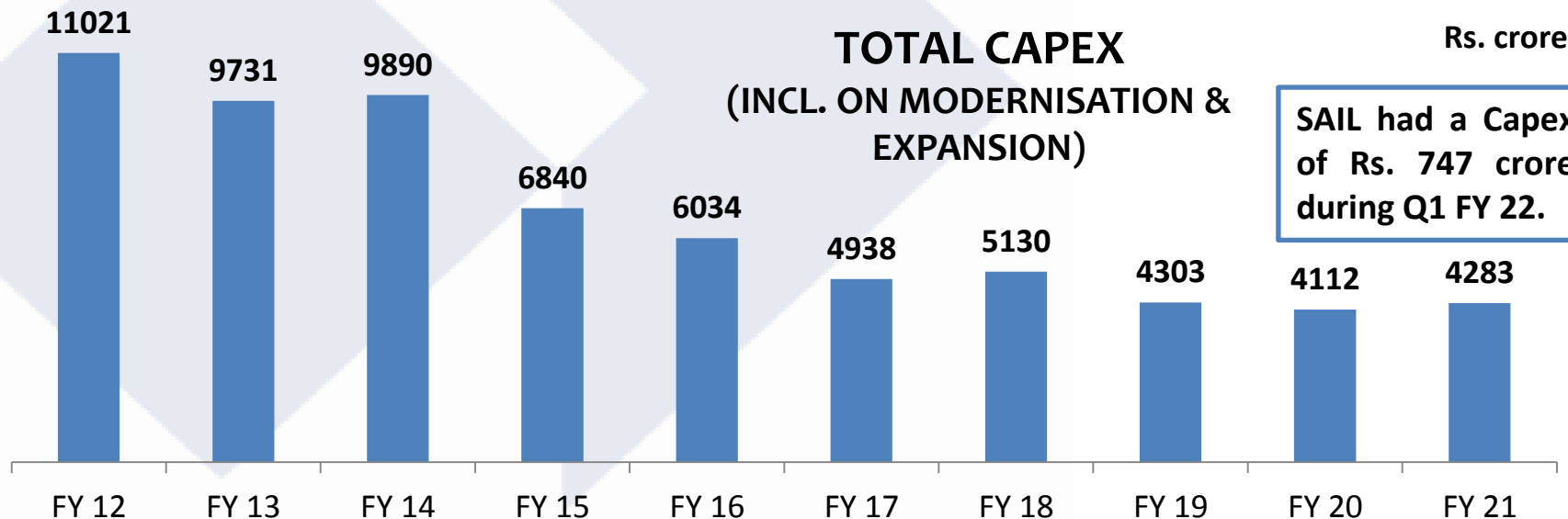
- Auto grade CR Products, Galvanized Coils /Sheets.
- Plates / Pipes to meet up to API 100 Grade specification.
- Universal Beams/Heavy Beams to support increasing Infrastructural requirements.
- Rails for Metro – Railways and Dedicated Freight Corridors.
- Increased production of Rails and Wheels to meet the increasing requirements of Indian Railways.
- Quantum jump in Rounds and Structural production.
- Wider Plates in the size of 4300 mm.

# ONGOING PROJECTS (CAPEX)



- 1 Expansion of existing capacity
- 2 Value-addition / Product-mix improvement
- 3 Technological up gradation / Modernization
- 4 Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

In addition, a Capex Plan of Rs. 10264 crore has been made for augmentation of Raw material facilities.

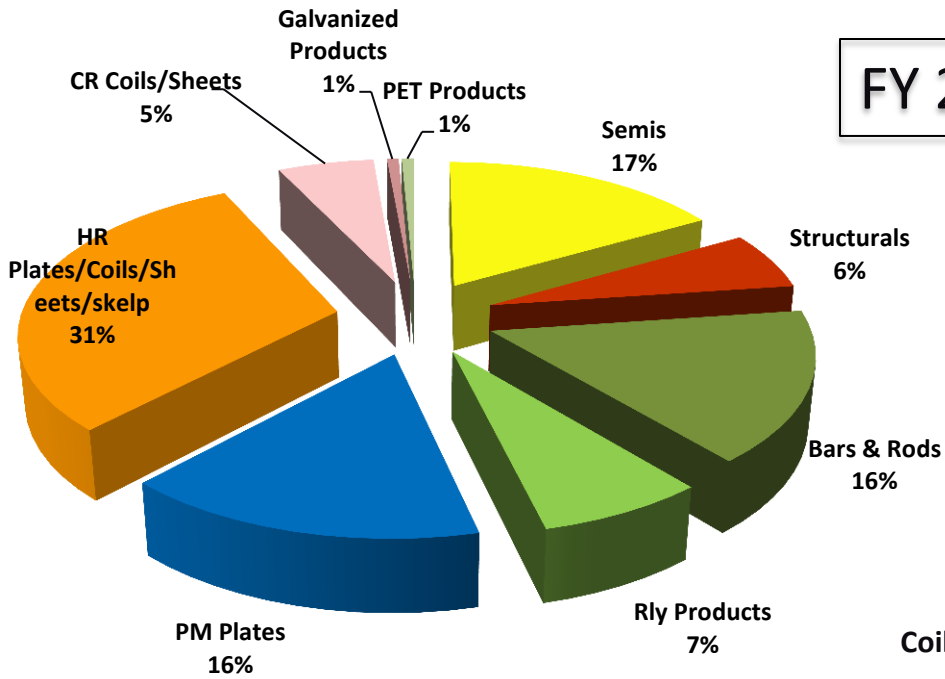


SAIL had a Capex of Rs. 747 crore during Q1 FY 22.

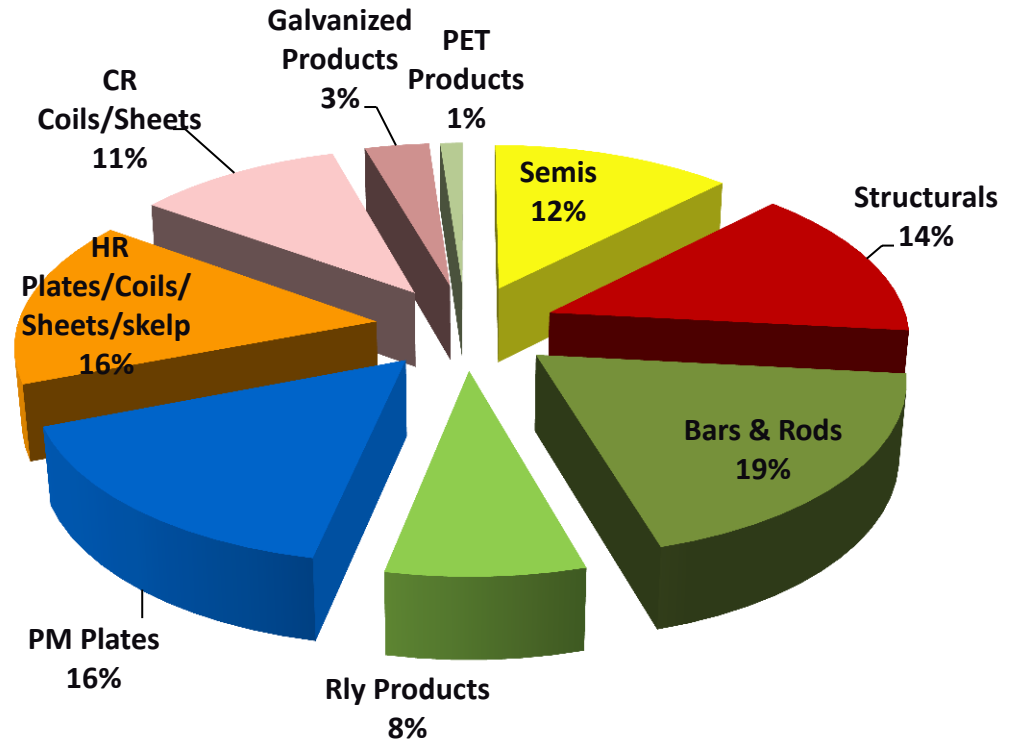
# CAPACITY AFTER EXPANSION

Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
	2020-21	After Expansion	2020-21	After Expansion	2020-21	After Expansion
<b>BSP</b>	4.60	7.5	4.24	7.0	3.96	6.6
<b>DSP</b>	2.27	2.5	2.09	2.2	2.03	2.1
<b>RSP</b>	3.83	4.5	3.50	4.2	3.21	4.0
<b>BSL</b>	3.79	5.8	3.38	4.6	3.24	4.2
<b>ISP</b>	2.09	2.9	1.85	2.5	1.82	2.4
<b>VISL</b>	0.00	0.3	0.00	0.2	0.02	0.2
<b>ASP</b>	-	-	0.06	0.5	0.07	0.4
<b>SSP</b>	-	-	0.10	0.2	0.26	0.3
<b>TOTAL</b>	<b>16.58</b>	<b>23.5</b>	<b>15.22</b>	<b>21.4</b>	<b>14.60</b>	<b>20.2</b>

FY 2021-22



Post  
Ongoing Expansion



## Facilities added:

- Steel melting Shop – Electric Arc Furnace (55 T); AOD Converter (60 T); Ladle Furnace (60 T); Single Strand Slab Caster.
- Roll Grinder for Hot Rolling Mill
- Cold Rolling Mill Complex

## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	0.10	0.18
Saleable Steel	0.26	0.34

## Facilities Completed:

- Raw Material Handling System
- New Coke Oven Battery (0.88 Mtpa, 7 m tall)
- Coke Dry Cooling Plant
- Sinter Machines (3.88 Mtpa gross sinter production, 2x204 m<sup>2</sup>)
- Blast Furnace 4160 m<sup>3</sup> volume (2.7Mtpa)
- 3 nos. of 150 T BOF Converters
- 2x6 Strand Billet Casters (1.67 Mtpa)
- 1x4 Strand Bloom-cum-Beam Blank Caster (0.83 Mtpa)
- Wire Rod Mill (0.55 Mtpa)
- Bar Mill (0.90 Mtpa)
- Universal Section Mill (0.85 Mtpa)

## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	1.85	2.50
Saleable Steel	1.82	2.39



# Current Progress of Expansion at IISCO Steel Plant





## Facilities Completed:

- Re-building of Coke Oven Battery #1 & #2.
- Up-gradation of Blast Furnace #2 and Stoves Up-gradation of #5
- Auxiliary Fuel Injection (CDI) in Blast Furnaces #2 & #3.
- Turbo-Blower-8.
- New CRM Complex (1.2 Mtpa)
- Up-gradation of HSM with augmentation of Roughing Facility (4.5 MTPA).

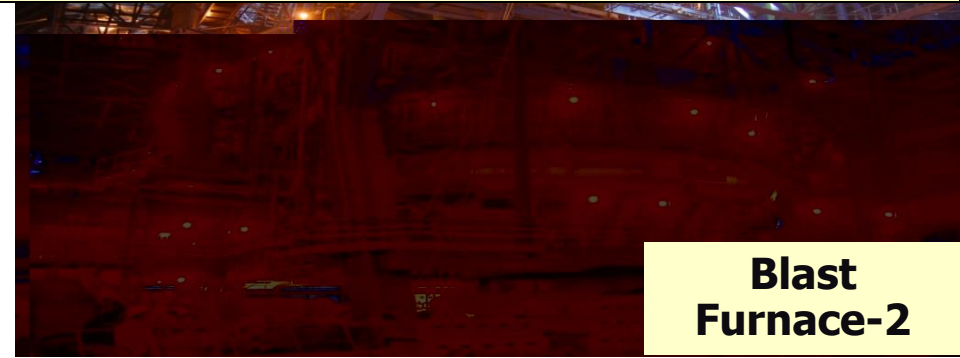
## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	3.38	4.61
Saleable Steel	3.24	4.18

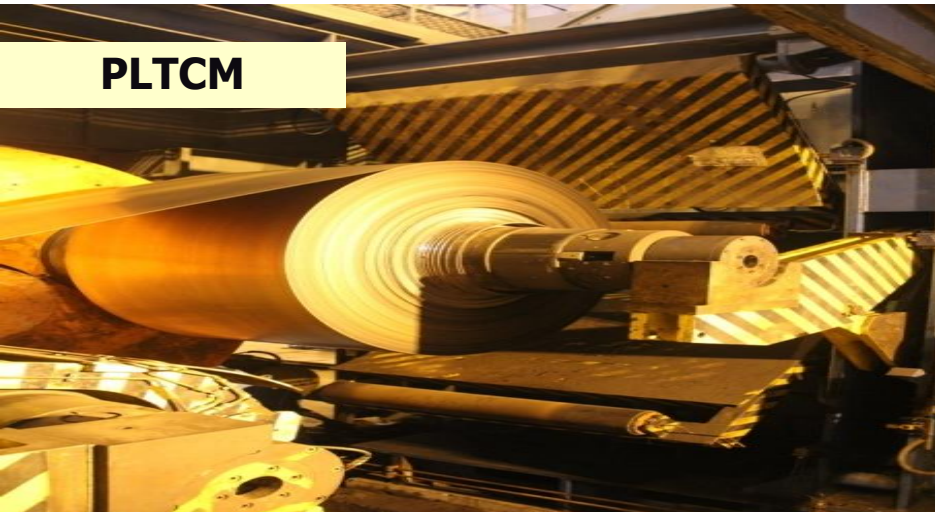
# Current Progress of Expansion at Bokaro Steel Plant



**Coke Oven  
battery-2**



**Blast  
Furnace-2**



**PLTCM**



**Coil Packaging Line**



**Skin Pass  
Mill**



**Bell Annealing Furnace**

## Facilities Already Completed:

- Ore Handling Plant part-A
- Second Sinter Machine in Sinter Plant-3 (3.7 MTPA)
- New Coke Oven Battery No. 11 (7 m tall, Capacity 0.881 mtpa)
- Oxygen Plant (BOO basis)
- Universal Rail Mill (1.2 MTPA) and Rail Welding Line
- Bar and Rod Mill (0.9 MTPA)
- Blast Furnace 4060 m<sup>3</sup> (2.8 Mtpa)
- New Steel Melting Shop (SMS-3) with Converter-1 & 2 and New Billet Casters (2x6) and New Billet-cum-Bloom Caster (1X6).
- Convertor - 3, LF -3, Argon Rinsing Station-3 in SMS -3.

## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	4.24	7.0
Saleable Steel	3.96	6.56



# Current Progress of Expansion at Bhilai Steel Plant



**Sinter Machine**



**Coke Oven Battery - 11**



**Blast Furnace - 8**



**Continuous Caster - 1**



**Bar & Rod Mill**



**Universal Rail Mill**

## Facilities Completed:

- New Coke Oven Battery -6 (7 m tall, 1 x 67 ovens)
- New Sinter Plant -3 (1 x 360m<sup>2</sup>)
- New Blast Furnace -5, useful volume - 4060 m<sup>3</sup>
- New 3<sup>rd</sup> Single Strand Slab Caster (1.5 MTPA)
- New Oxygen Plant 2x700 tpd on BOO basis
- New 3<sup>rd</sup> BOF (150 T) Convertor
- New 4.3 meter Wide Plate Mill

## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	3.50	4.20
Saleable Steel	3.21	3.99



# Current Progress of Expansion at Rourkela Steel Plant



Coke Oven  
Battery - 6



Sinter Plant - 3



Blast Furnace -  
5 Tapping



3<sup>rd</sup> BOF Converter



3<sup>rd</sup> Slab Caster

## Facilities Completed:

- Rebuilding of Coke Oven Battery no-2
- New Ladle Furnace (125T)
- Coke Sorting & Coal Handling Plant
- New Dolomite Plant (300tpd)
- Bloom-cum-Round Caster 1X4 (0.75 Mtpa)
- New Medium Structural Mill (1.0 Mtpa)

## Production (MTPA) :

Item	2020-21 (Actual)	After Expansion
Crude Steel	2.09	2.20
Saleable Steel	2.03	2.12



# Current Progress of Expansion at Durgapur Steel Plant



Coke Oven Battery-2



Ladle Furnace-3

Bloom cum Round Caster



Medium Structural Mill



# RAW MATERIALS

Year	Hot Metal (mtpa)	Iron Ore Consumption (mtpa)	Linkages of Iron Ore
2020-21	16.582	27.355	Existing Mines
Post Expansion	23.46	39	<p>The capacity of existing mines at Kiriburu, Meghahatuburu, Bolani &amp; Gua are being ramped up to meet the requirement of Iron Ore for post ongoing phase of expansion</p> <p>New Pellet Plants - 4 MTPA capacity at Gua, 1 MTPA at Dalli and 2 MTPA at RSP has been planned for utilization of accumulated Iron Ore Fines &amp; Generated Fines</p> <p>In addition to the above, new mechanised Iron Ore Mines are being developed at Rowghat and Taldih</p>

# RAW MATERIALS – Iron Ore

Mine	Existing Capacity* (mtpa)	Capacity* after ongoing expansion (mtpa)	Remarks
Kiriburu	5.50	5.50	<ul style="list-style-type: none"> <li>Expansion at Kiriburu has already been completed whereas Meghathaburu is being ramped up to meet the requirement of the ongoing expansion plan.</li> <li>At Bolani, processing plant has been upgraded to 7.0 mtpa and is under stabilization.</li> <li>At Gua, FC/EC are now in place. Capacity augmentation may take about 40 months from award of contract.</li> </ul>
Meghathaburu	5.00	6.50	
Bolani	7.00	10.00	
Gua	4.00	10.00	
Rajhara, Dalli	8.70	7.00**	
Barsua, Kalta, Taldih	7.00	ROM-16.00	Expansion through MDO route for Taldih mines for 7 MTPA under progress. Process for grant of EC for 16 MTPA RoM (Barsua-4 + Taldih-8- + Kalta-4) is under progress.
Rowghat	-	12.00	<ul style="list-style-type: none"> <li>MDO has been engaged w.e.f. 25.09.2017 for development of 14 MTPA mine.</li> <li>Interim mining to the tune of 3 lakh Tonne Per annum started on 05.02.2021</li> </ul>
Chiria	0.75	ROM-7/15	Capacity to be expanded contractually to 1.5 MTPA after availability of FC for Sukri. Further expansion will be taken up after availability of lease extension/Forest Clearance

\* Finished Product capacity unless specified

■ The entire requirement of the increased capacity is planned to be met through captive mines

# RAW MATERIALS – Coal

Year	Hot Metal (mtpa)	Coking Coal Requirement (mtpa)	Linkages of Coking Coal
2019-20	17.438	15.854	<ul style="list-style-type: none"><li>• Import Component – 90%</li><li>• Indigenous: 10%</li><li>• Domestic coal is largely sourced from Coal India Ltd.</li></ul>
Post Expansion	23.46	19.5	<ul style="list-style-type: none"><li>• Long term / Quarterly contracts cover 95% of Import requirements</li><li>• Tasra captive coal mine being developed to produce 4 mtpa of ROM (1.8 mtpa washed coal)</li><li>• New linkages / acquisitions are being explored.</li><li>• Request has been made to Ministry of Coal for allocation of new potential coking coal blocks in line with recommendations of NITI Aayog.</li></ul>








# STEEL AUTHORITY OF INDIA LIMITED









## Strategic Partnerships





# MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	REMARKS
STEEL	 	<ul style="list-style-type: none"> <li>A Special Purpose Vehicle, namely, 'Chhattisgarh Mega Steel Limited' has been formed for setting-up an Ultra Mega Steel Plant (UMSP) in Bastar area of Chhattisgarh.</li> </ul>
DOWNSTREAM STEEL PROCESSING UNITS	  	<ul style="list-style-type: none"> <li>SAIL Bansal Service Center Limited – A JV with Bansal Metal Works Ltd. for a Flat Product service centre at Bokaro.</li> <li>SAIL SCL Kerala Limited – A JV with Govt. of Kerala for producing TMT Bars at Kozhikode.</li> <li>Prime Gold – SAIL JVC Limited – A JV with M/s Prime Gold for producing TMT Bars at Gwalior.</li> <li>VSL SAIL JVC Limited – A JV with M/s Velagapudi Steel Ltd. for producing TMT Bars at Ujjain.</li> </ul>
ENERGY	 	<ul style="list-style-type: none"> <li>JV with NTPC for operating and managing CPPs of Bhilai, Durgapur and Rourkela.</li> <li>JV with DVC for operating &amp; managing CPP of Bokaro.</li> </ul>

# MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	REMARKS
TECHNOLOGY		<ul style="list-style-type: none"> <li>SAIL Kobe Iron India Pvt. Ltd. – A Joint Venture Company has been formulated for setting up a 0.5 mtpa capacity Plant for producing iron nuggets based on ITmk3 technology.</li> </ul>
RAW MATERIALS	     	<ul style="list-style-type: none"> <li>International Coal Ventures Pvt. Ltd., a SPV of 5 leading PSUs incorporated (SAIL, RINL, CIL, NTPC &amp; NMDC) for acquisition / operation of coal assets in overseas territories.</li> <li>M/s S&amp;T Mining Company Pvt. Ltd. formed with Tata Steel for developing coking coal mines in India.</li> <li>M/s SAIL &amp; MOIL Ferro Alloys (Pvt.) Ltd. formed with MOIL for production of Ferro-alloys at Bhilai.</li> </ul>
CEMENT		<ul style="list-style-type: none"> <li>Bhilai Jaypee Cement Ltd. -Slag based cement plant of 2.2 million tonne per annum capacity with grinding unit at Bhilai &amp; clinkering unit at Satna.</li> </ul>

# MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	OBJECTIVE
WAGON MANUFACTURE	 THE INFRASTRUCTURE PEOPLE	<ul style="list-style-type: none"><li>▪ SAIL RITES Bengal Wagon Industry Pvt. Ltd. – A Joint Venture Company has been formed with M/s RITES for setting up Wagon Manufacturing Factory at Kulti, West Bengal.</li></ul>
E-PORTAL		<ul style="list-style-type: none"><li>▪ JV with Tata Steel to promote e-commerce activities in steel and related areas</li></ul>

# Abbreviations used

•	BF	Blast Furnace	•	FOB	Freight On Board
•	SMS	Steel Melting Shop	•	JPC	Joint Plant Committee
•	BOF	Basic Oxygen Furnace	•	Kg/thm	Kilo Gram Per Tonne of Hot Metal
•	THF	Twin Hearth Furnace	•	Tpd	Tonnes Per Day
•	EAF	Electric Arc Furnace	•	MT	Million Tonne
•	BSPL	Bhilai Steel Plant	•	Mtpa	Million Tonne Per Annum
•	DSP	Durgapur Steel Plant	•	EBITDA	Earnings Before Interest, Taxes, Depreciation & Amortization.
•	RSP	Rourkela Steel Plant	•	PAT	Profit After Tax
•	BSL	Bokaro Steel Limited	•	PBT	Profit Before Tax
•	SSP	Salem Steel Plant	•	RINL	Rashtriya Ispat Nigam Limited
•	VISL	Visvesvaraya Iron & Steel Plant	•	CS	Crude Steel
•	ASP	Alloy Steels Plant	•	CDI	Coal Dust Injection
•	CPLY	Corresponding Period Last Year	•	CC	Continuous Casting
•	G.Cal/tcs	Giga Calories per tonne of Crude Steel	•	BOO	Build-Own-Operate
•	ISP	Integrated Steel Plant	•	GoI	Government of India
•	HDGL	Hot Dip Galvanizing Line	•	MOEF	Ministry of Environment & Forests
•	CR	Cold Rolled			
•	HR	Hot Rolled			



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