

STEEL AUTHORITY OF INDIA LIMITED



RESULTS PRESENTATION FOR H1 & Q2 FY 2020-21



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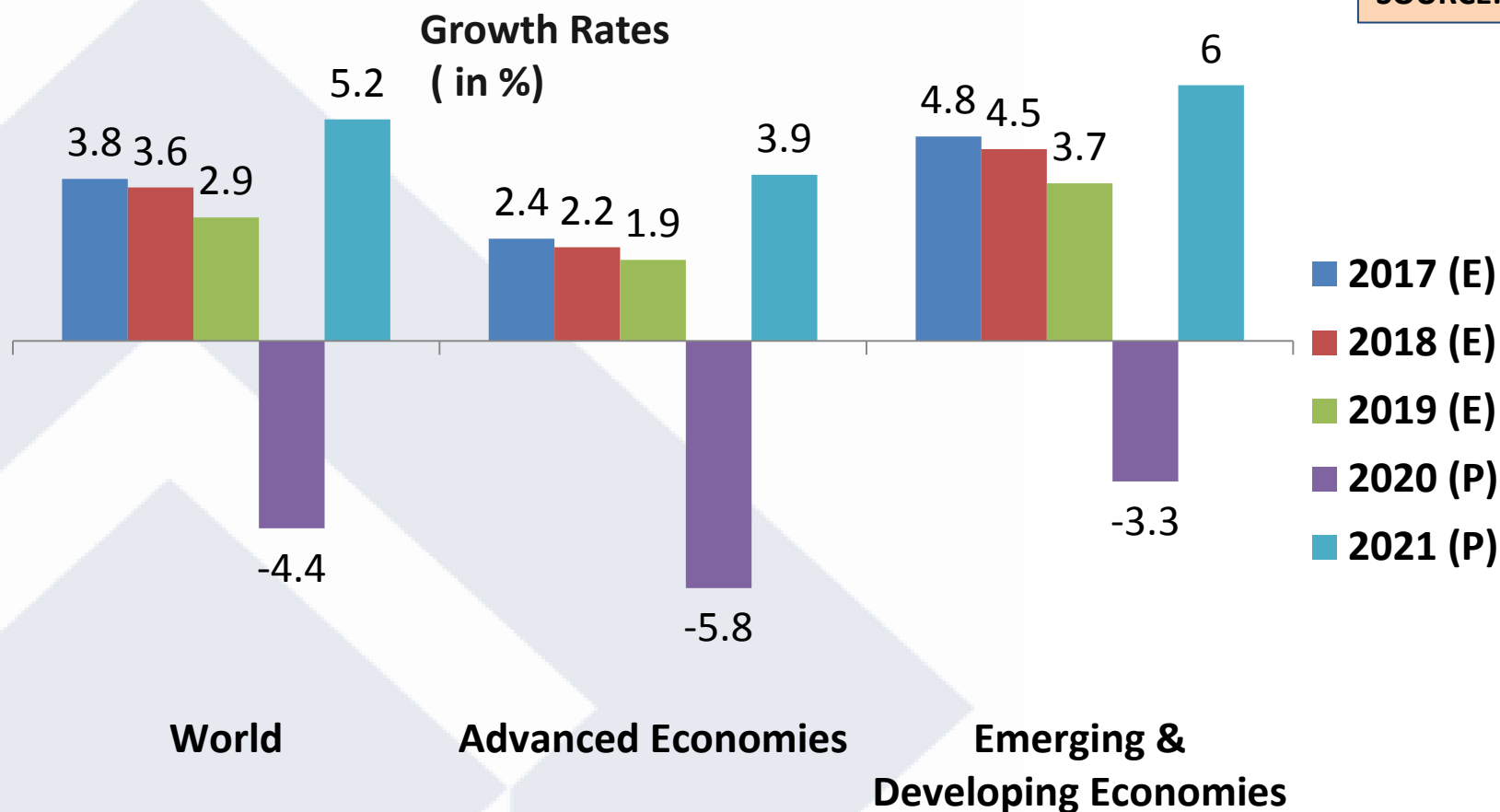


Economic & Steel Scenarios



WORLD ECONOMIC SCENARIO

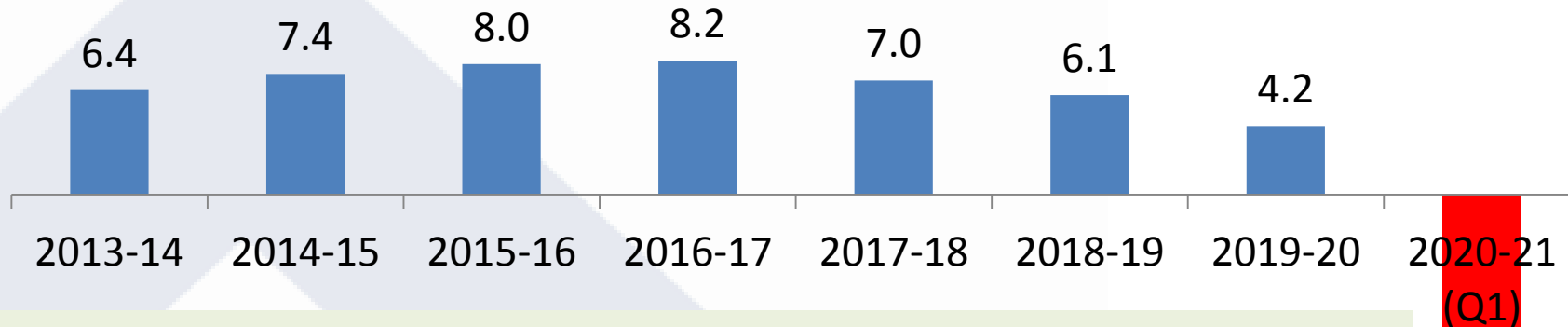
SOURCE: IMF



IMF projected the growth for 2020 at 2.9% in its Jan 20 World Economic Outlook (WEO). As the economies started entering lockdown, this figure was revised to -3% in April 20 and further down to -4.9% in June 20 WEO. With better than anticipated data for GDP for second quarter, the growth projection has now been made less severe to -4.9% in the Oct'20 WEO. Thereafter, growth is projected to bounce back to 5.2% in 2021.

SOURCE: CSO, GoI & Economic Survey

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



In line with the global projections, Indian economy is also expected to contract during 2020.

Q1 2020-21 data on GDP shows a contraction of 23.9%.

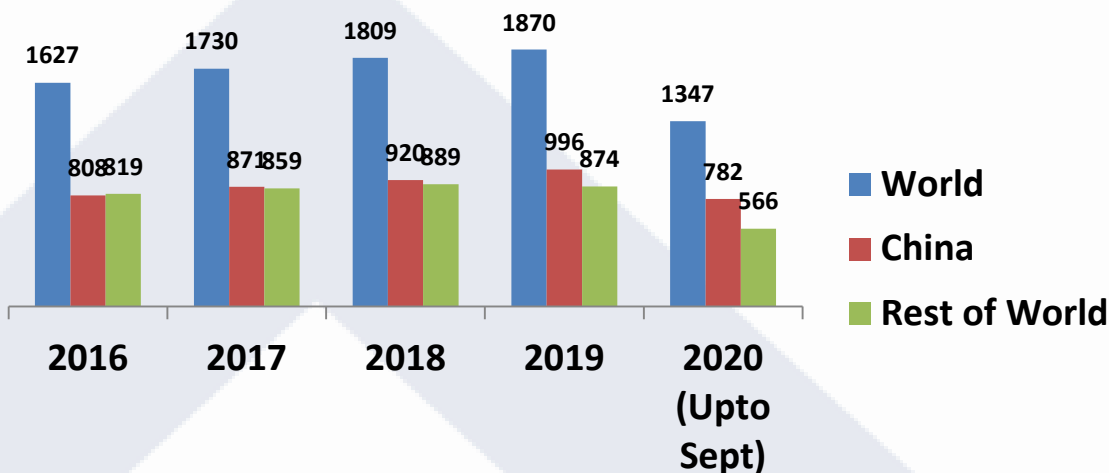
The Rating Agencies like Fitch and Goldman Sachs have revised their figures sharply downward for the FY 21 to -10.5% and -14.8% after the Q1 data.

Last available projections from major financial agencies are as follows:

Source	Growth Projection
WORLD BANK	-9.6% (FY21) and 5.4% (FY21)
IMF	-10.3% (CY20) and 8.8% (CY21)
RBI	-9.5% (FY21)

WORLD STEEL SCENARIO

Crude Steel Production (mtpa)



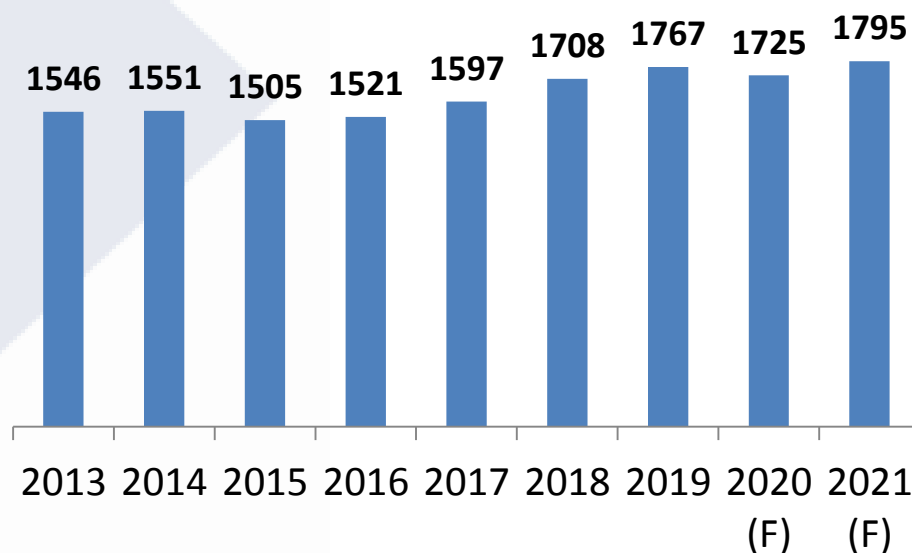
(Crude Steel Production)

- In line with projections, Global Production upto September 20 declined by 3.2% and stood at 1347 mt vis-à-vis 1392 mt during CPLY.
- China however increased its production by 4.5% during this period clocking 782 mt as against 748 mt during CPLY.

World Steel Association (WSA) Short Range Outlook (SRO) :

- Global steel demand will decrease by 2.4% in 2020 and increase by 4.1% in 2021.
- China's growth is set to go down to 8% in 2020 and constant in 2021.
- In the Emerging and Developing Economies excluding China, steel demand is forecast to fall by 12.3% in 2020 and rise by 10.6% in 2021.
- Demand in India expected to fall by -20.2% in 2020 and rise by 22.7% in 2021.

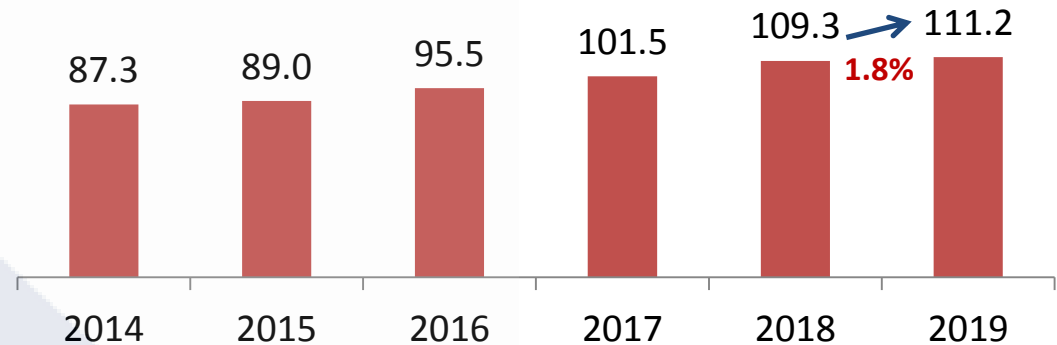
Finished Steel Consumption (mtpa)



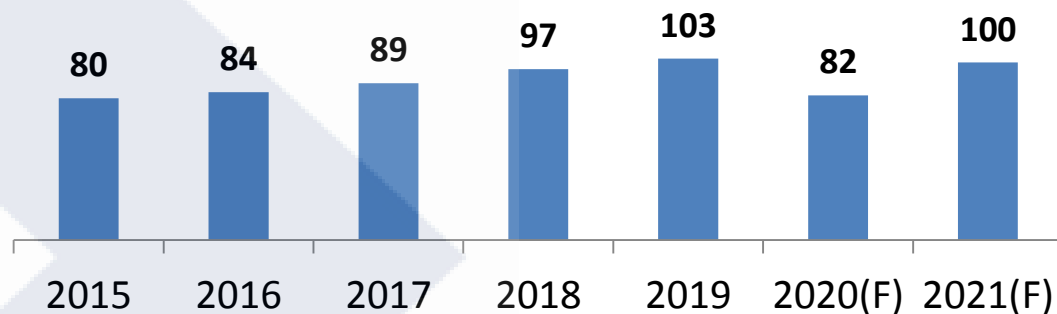
- **India's Crude steel production (2019) :**
111.2mtpa (growth of **1.8 %** over 2018)
- India overtook USA as the second largest consumer of steel in 2019.
- As per WSA Short Range Outlook, demand in India is set to fall by 20.2% in 2020 and grow by 22.7% in 2021.

Source: WSA

Crude Steel Production (mtpa)



Finished Steel Consumption (mtpa)



Performance FY 2020-21:

- Due to the impact of COVID-19 Pandemic and consequent lockdown, consumption was severely impacted being almost negligible during April 20. Thereafter, with easing of lockdown, demand has been improving exponentially. The cumulative consumption during April-September 20 fell to 35.864 MT as against 50.989 MT during CPLY, decline of 29.7%.
- As the producers adjusted their production in line with the demand, the production declined by 25.3% and stood at 38.586 MT as against 51.621 MT during CPLY.

Source: JPC

INDIAN STEEL PERFORMANCE

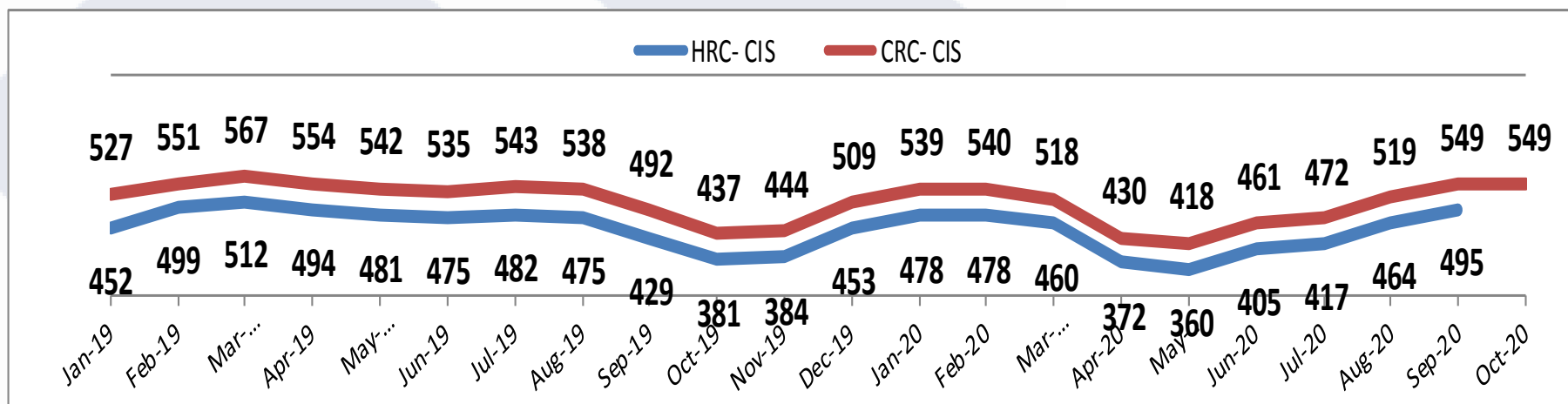
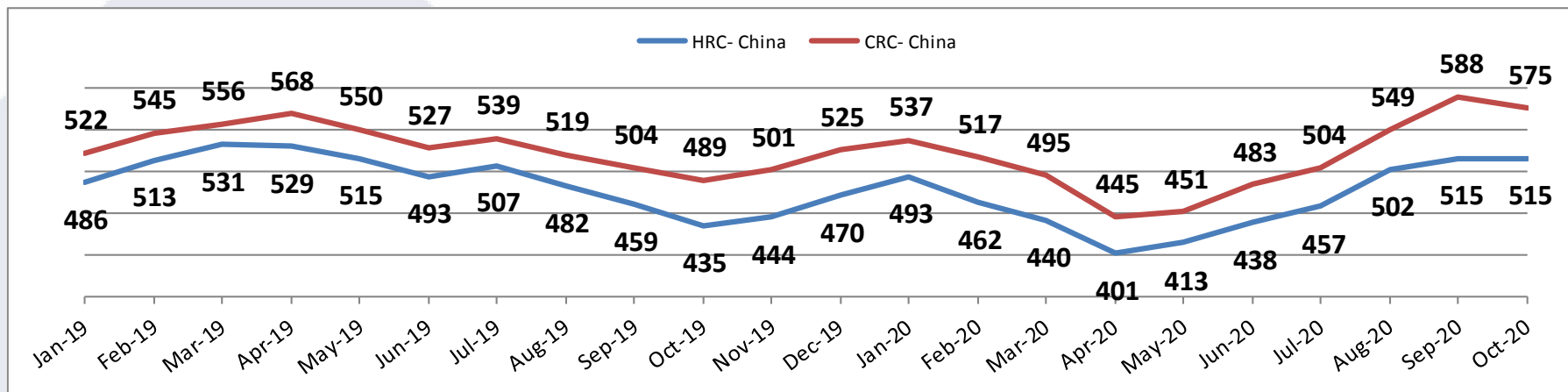
INDICATORS	UNIT	H1 20-21	H1 19-20	% +/- Over CPLY
Growth in Index of Industrial Production ^	%	-25	2.4	-27.40
Production - Finished Steel *	MT	38.59	51.621	-25.3
Imports - Finished Steel *	MT	1.99	4.018	-50.6
Exports - Finished Steel *	MT	6.54	3.94	66.3
Consumption - Finished Steel *	MT	34.03	51.70	-34.2
Less Variation in Stock *	MT	-1.84	0.72	-356.9
Real Consumption of Finished Steel *	MT	35.86	50.99	-29.7

^ As per CSO data H1 data is for Apr.-Aug'20-21

*Source JPC Report

INTERNATIONAL PRICE (FOB) TREND

USD/Tonne



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Performance Highlights



PERFORMANCE HIGHLIGHTS : H1 FY'21

FINANCIAL PERFORMANCE

- ❖ Net Sales : Rs 25672 Crore
- ❖ EBITDA : Rs. 1973 Crore
- ❖ PBT : - Rs. 1374 Crore
- ❖ PAT : - Rs 877 Crore

PRODUCTION & SALES PERFORMANCE

- ❖ Hot Metal Production : 6.809 MT
- ❖ Crude Steel Production : 6.290 MT
- ❖ Saleable Steel Production : 6.032 MT
- ❖ Semis component in production : 29.85% of saleable steel
- ❖ Value Added Production : 2.970 MT
- ❖ Production through concast route : 6.168 MT
- ❖ Saleable Steel Sales : 6.444 MT

PERFORMANCE HIGHLIGHTS : Q2 FY'21

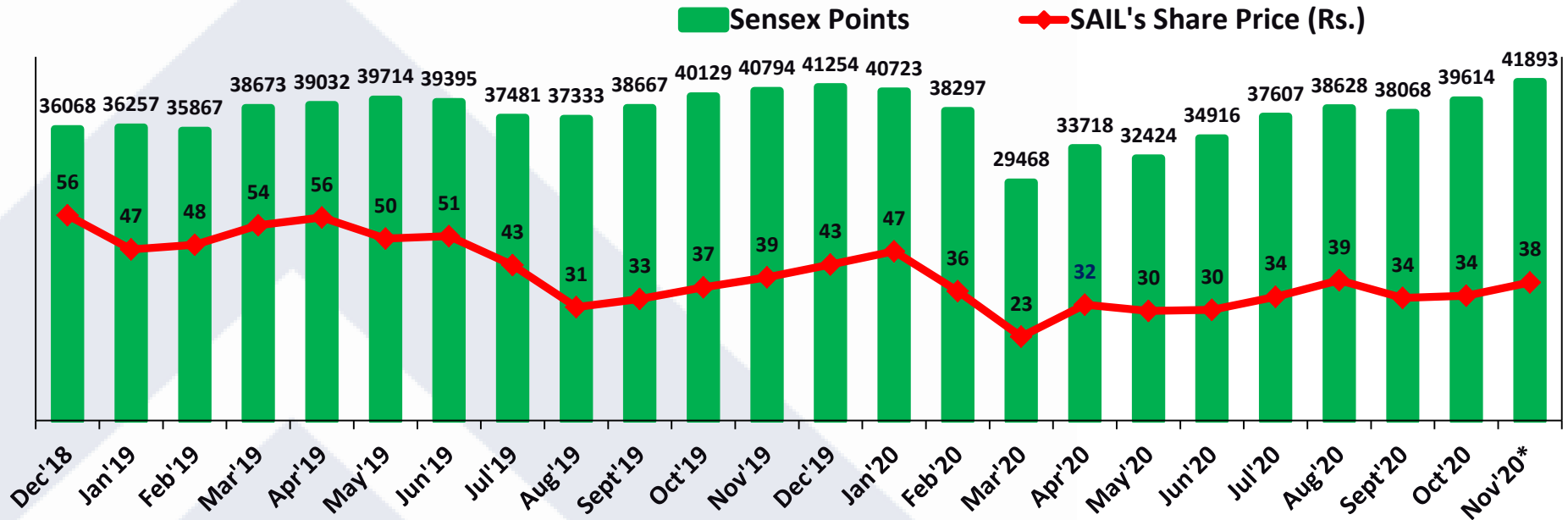
FINANCIAL PERFORMANCE

- ❖ Net Sales : Rs. 16834 Crore
- ❖ EBITDA : Rs. 2098 Crore
- ❖ PBT : Rs. 610 Crore
- ❖ PAT : Rs. 393 Crore

PRODUCTION & SALES PERFORMANCE

- ❖ Hot Metal Production : 4.132 MT
- ❖ Crude Steel Production : 3.816 MT
- ❖ Saleable Steel Production : 3.753 MT
- ❖ Semis component in production : 23.96% of saleable steel
- ❖ Value Added Production : 1.776 MT
- ❖ Production through concast route : 3.719 MT
- ❖ Saleable Steel Sales : 4.206 MT

SAIL STOCK PRICE MOVEMENT



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

* As on Nov 6, 2020

DIVIDEND PAYOUT

	Interim (%)	Final (%)	Total (%)	Dividend (Rs. crore)	Dividend Tax (Rs. crore)
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

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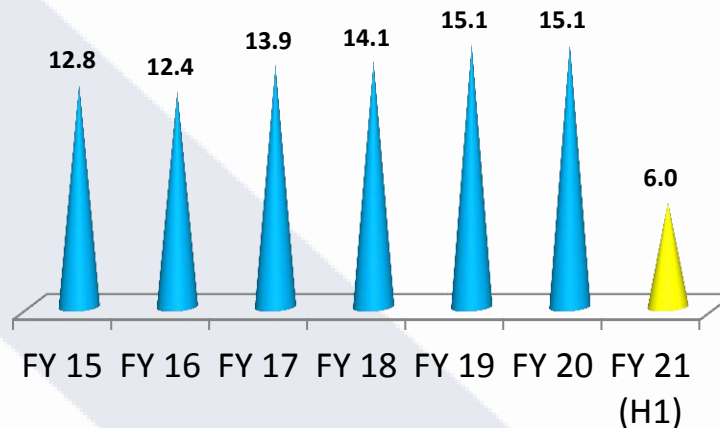
Operational Performance



PRODUCTION PERFORMANCE

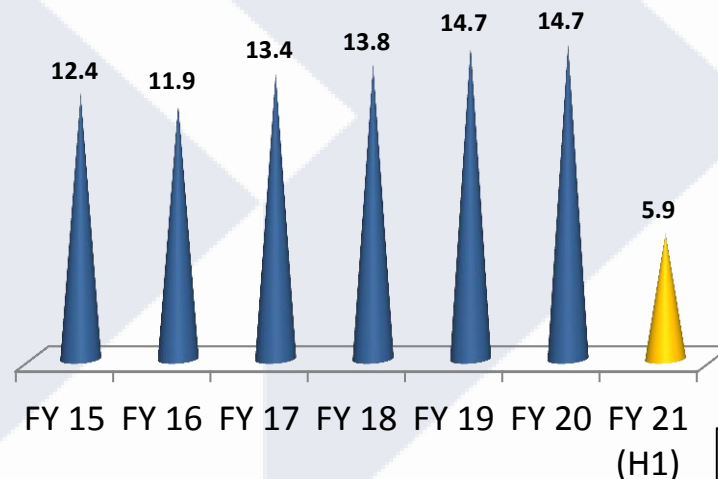
All figures In Million Tonne

SALEABLE STEEL PRODUCTION (incl. SSPs)

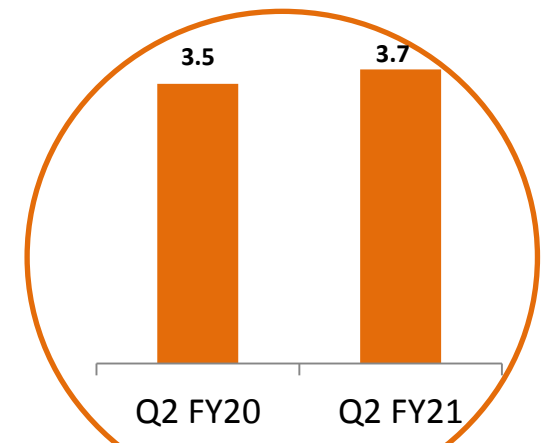


Annual

SALEABLE STEEL PRODUCTION (5 ISPs)



Quarterly

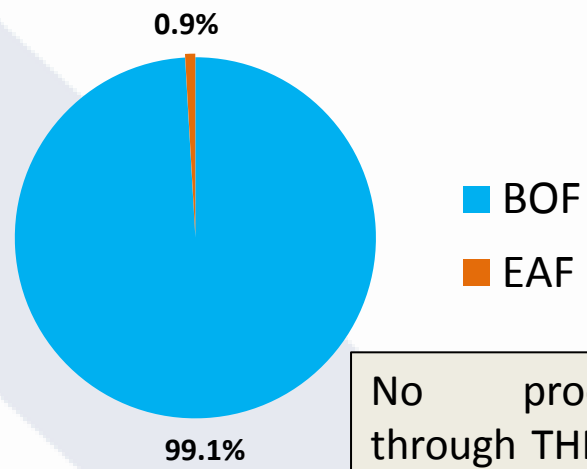


Production has been severely affected on account of COVID-19 impact during Q1 FY21

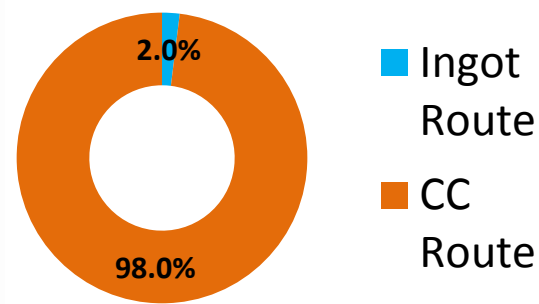
PRODUCTION PERFORMANCE : H1 FY 21



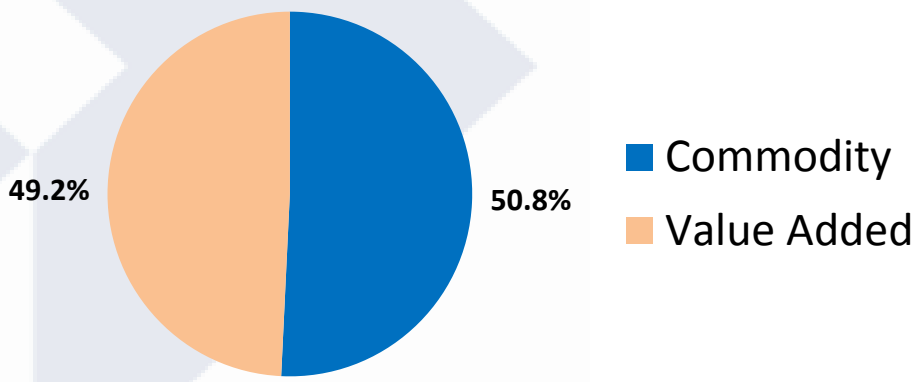
CRUDE STEEL PRODUCTION BY PROCESS



No production through THF Route this financial year



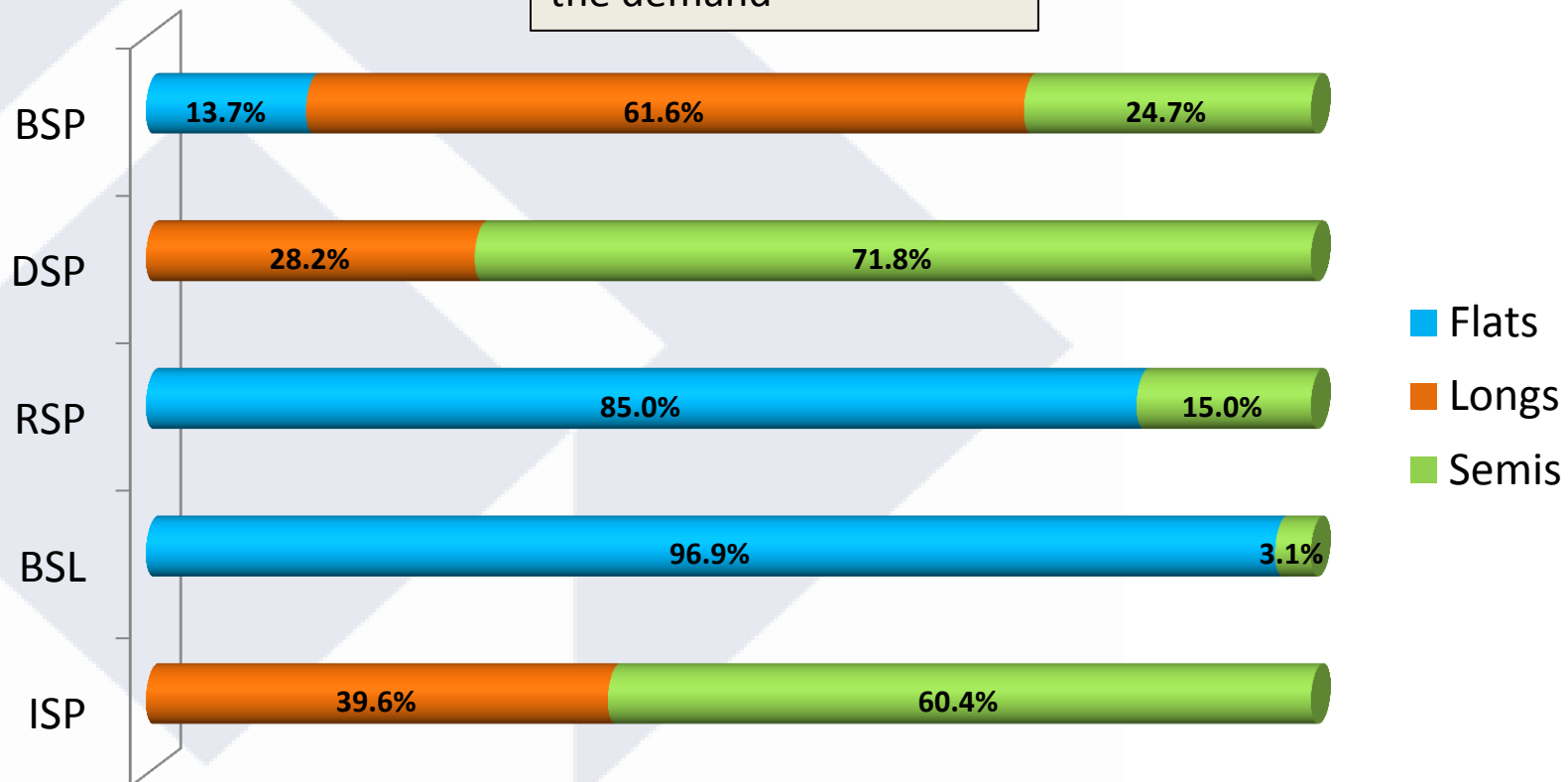
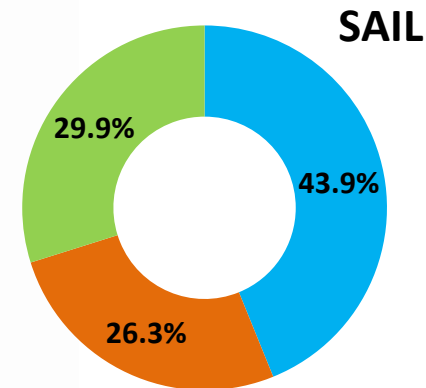
SALEABLE STEEL PRODUCTION BY PROCESS



PRODUCTION PERFORMANCE : H1 FY 21

PRODUCT MIX : 5 ISPs

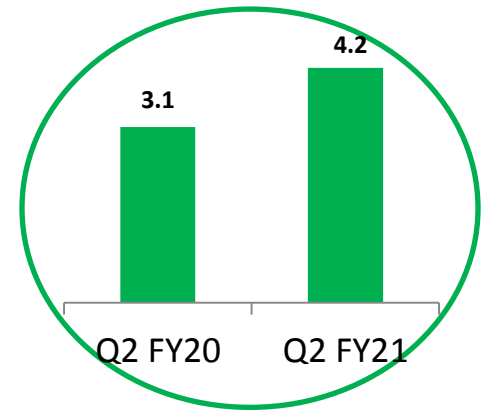
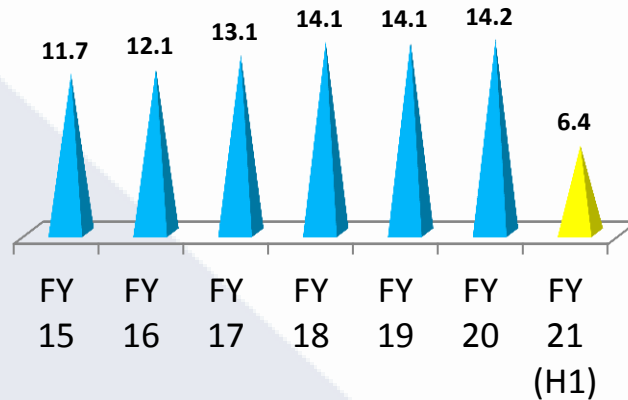
The percentage of semis has increased while both flat and long finished products saw a decline in share as the production was regulated in line with the demand



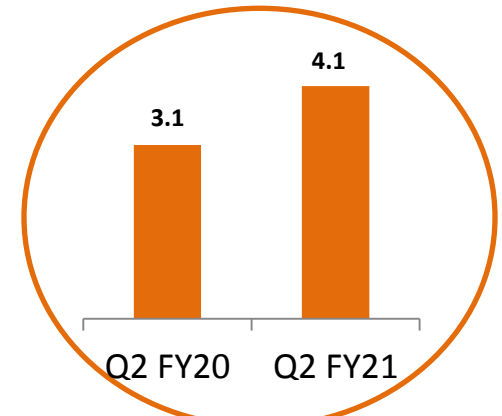
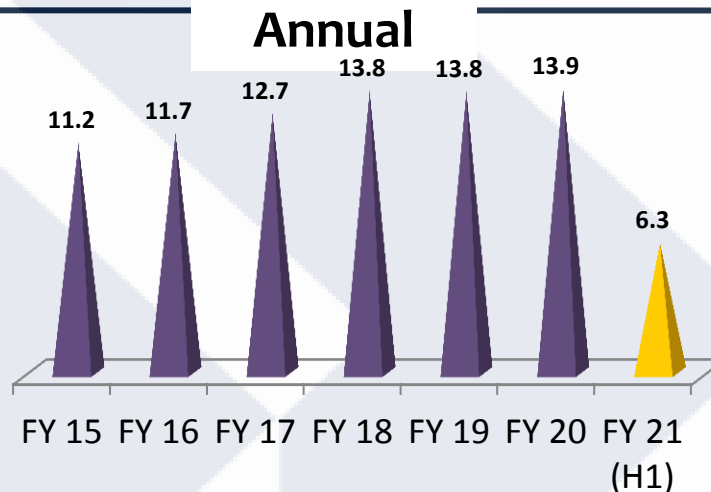
SALES PERFORMANCE

All figures In Million Tonne

TOTAL SALES (incl. SSPs)



SALES OF 5 ISPs



Domestic demand was severely impacted on account of COVID-19. However, SAIL seized the opportunity available in the international market by exporting about 12.10 lakh tonnes during H1 FY 21 as against 4.88 lakh tonnes during CPLY, a growth of about 148%. Further, the domestic markets are also looking up quite positively now. SAIL has again led the market by notching up its best ever performance since June 20.

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**Efficiency &
Sustenance
Performance**

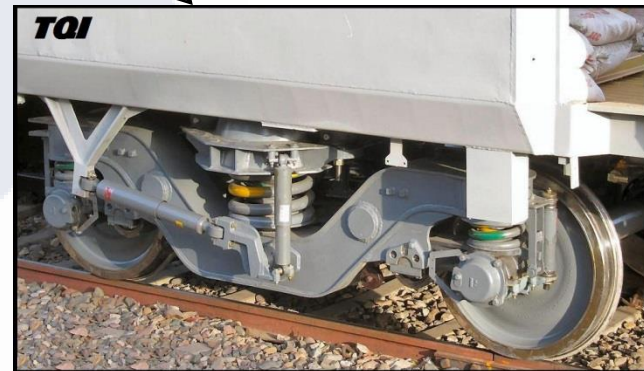


RECENTLY DEVELOPED PRODUCTS

NARROW PARALLEL
FLANGE BEAM 750:
USAGE IN
CONSTRUCTION
INDUSTRY



LINKE HOFMANN
BUSCH (LHB) WHEELS:
USAGE FOR RAILWAYS



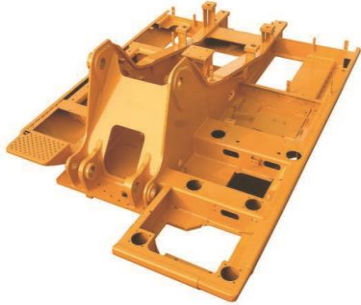
PRODUCT CUSTOMISATION FOR END USERS

HYVA TIPLERS



HSMP AND PMP
GRADE: IS
2062E450, E600

Main Frame



Track Frame



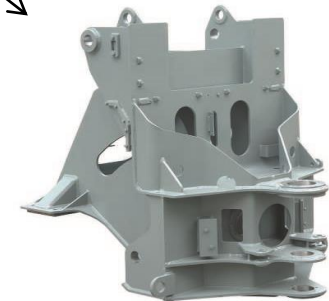
Boom



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

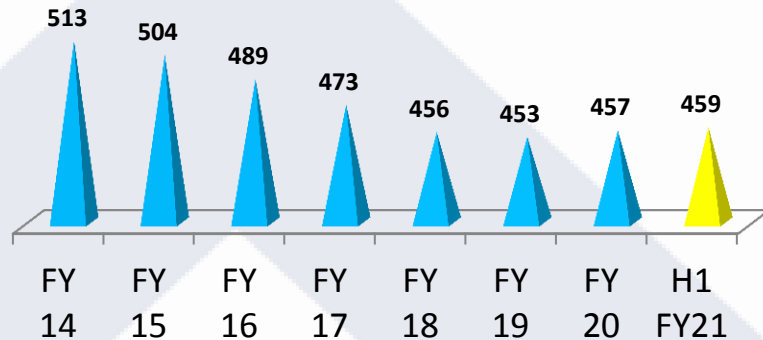


Dummy Axle Beam



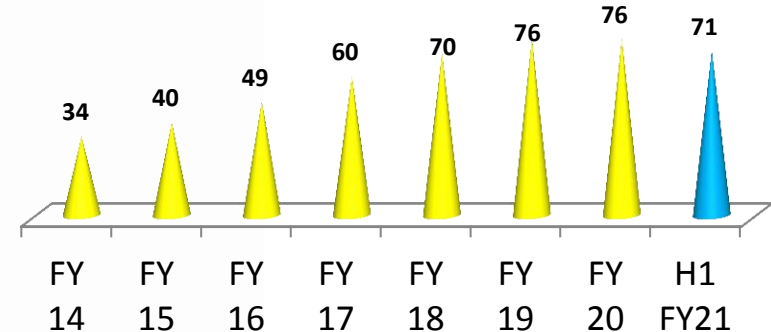
TECHNO-ECONOMIC PARAMETERS

Coke Rate: kg/thm



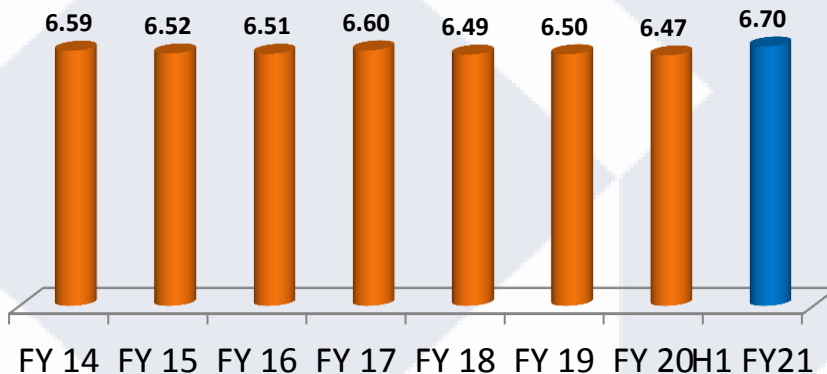
Reduction of 11% over FY14

CDI Rate: kg/thm



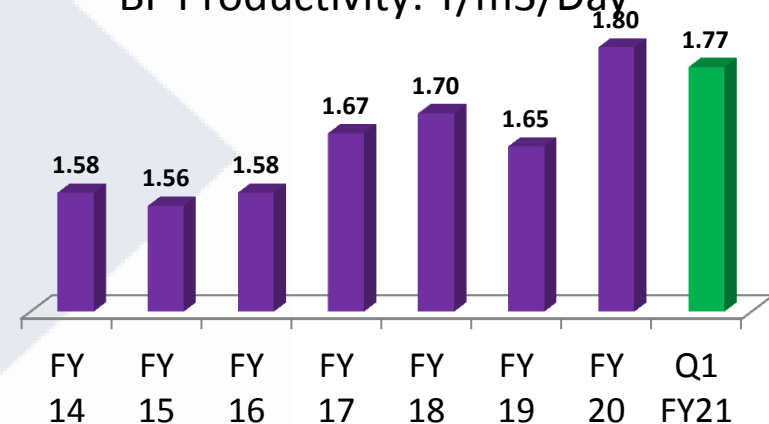
Increase of 124% over FY14

Specific Energy Consumption: GCal/tcs



Reduction of 2% over FY14

BF Productivity: T/m3/Day



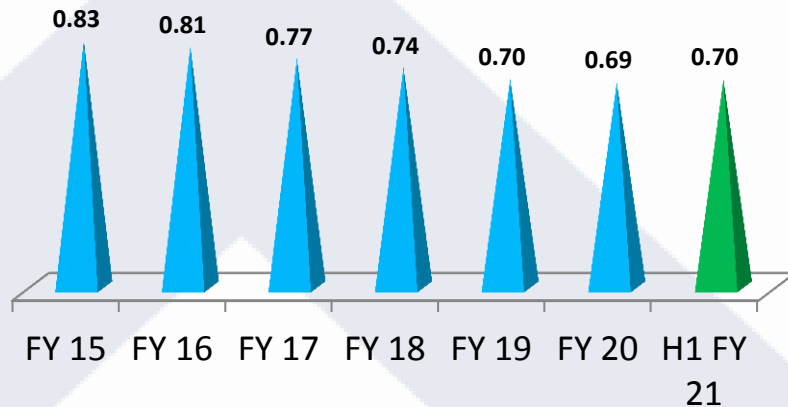
Improvement of 14% over FY14

Calculation done on considering performance during FY20.

Performance during current FY especially Q1 severely impacted on account of lower volumes.

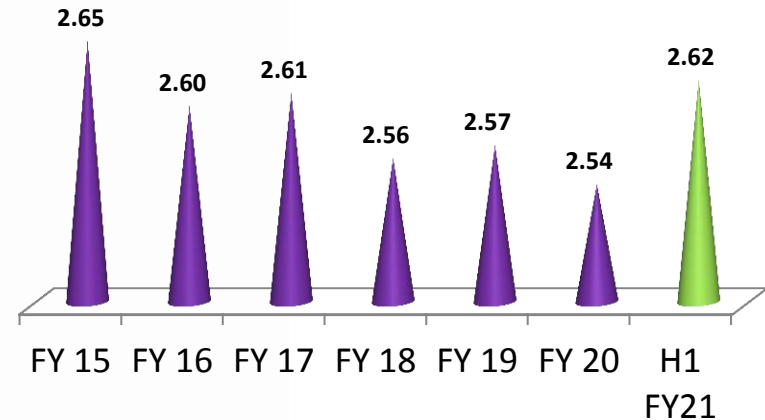
SUSTAINANCE PARAMETERS

PM Emission Load: kg/tcs



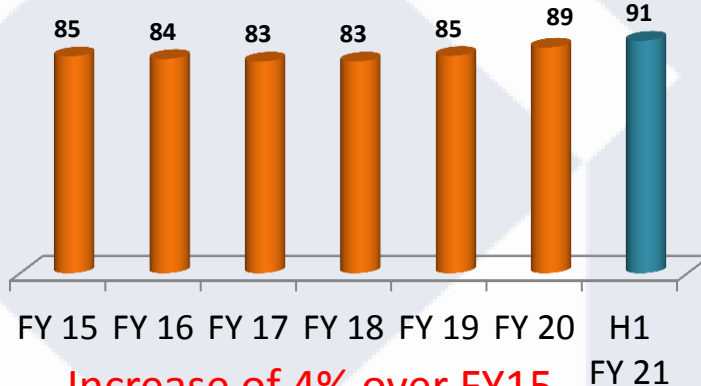
Reduction of 17% over FY15

Specific CO2 Emission: m3/tcs



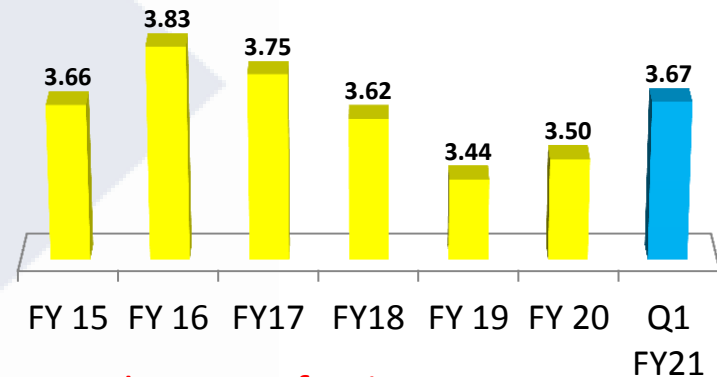
Reduction of 4% over FY15

Solid Waste Utilisation (%)



Increase of 4% over FY15

Specific Water Consumption: m3/tcs

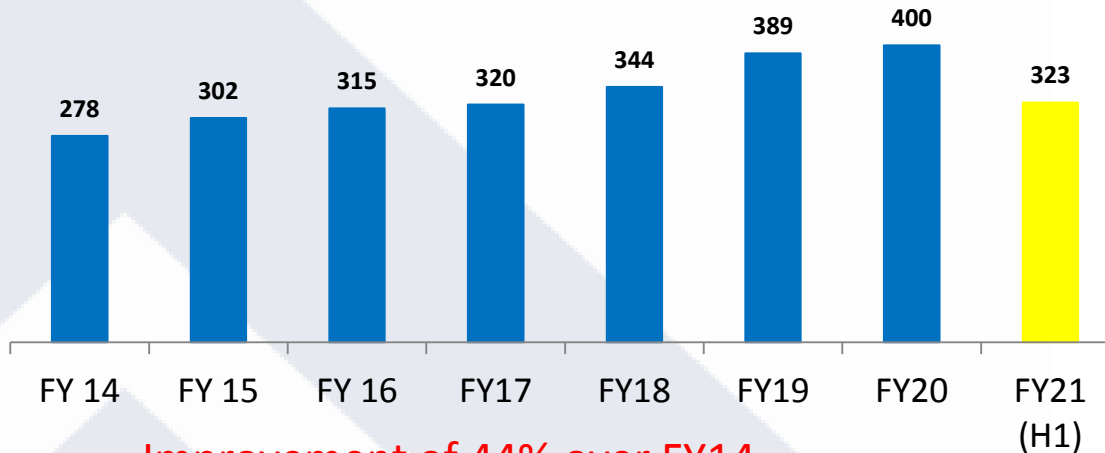


Reduction of 4% over FY15

Calculation done on considering performance during FY20.
Performance during current FY especially Q1 severely impacted on account of lower volumes.

MANPOWER PERFORMANCE

LABOUR PRODUCTIVITY TREND (tcs/man/year)



Improvement of 44% over FY14

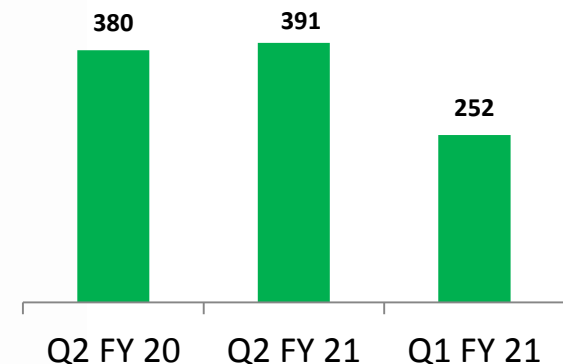
Calculation done on considering performance during FY20. Performance during current FY especially Q1 severely impacted on account of lower volumes.

MANPOWER

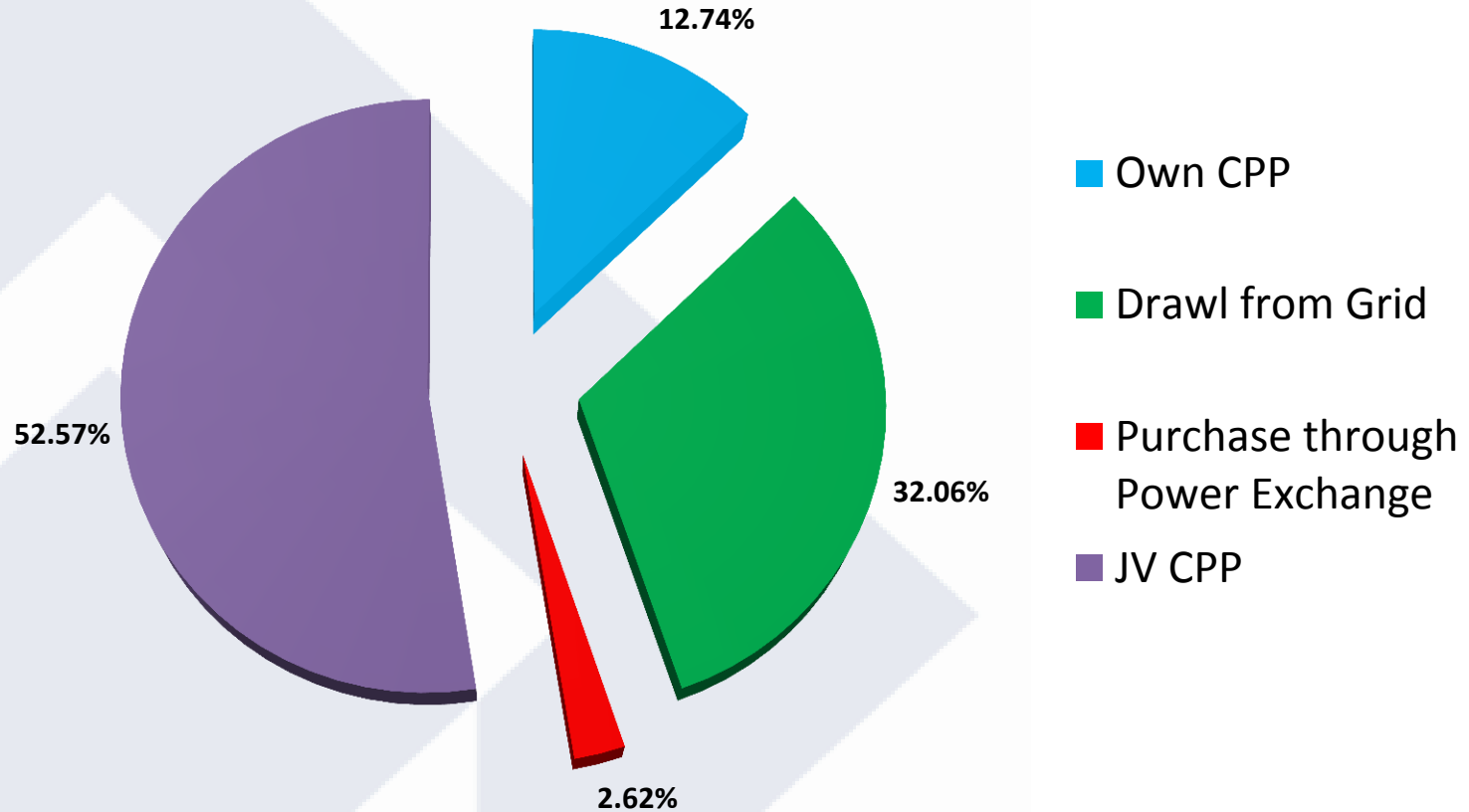
Total manpower as on 01.10.2020: **67126**

Reduction in H1 FY 21: **2253**

LABOUR PRODUCTIVITY Q2 FY'21 VIS-À-VIS CPLY AND PREVIOUS QUARTER (tcs/man/year)



POWER CONSUMPTION – H1 FY 21



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Financial Performance



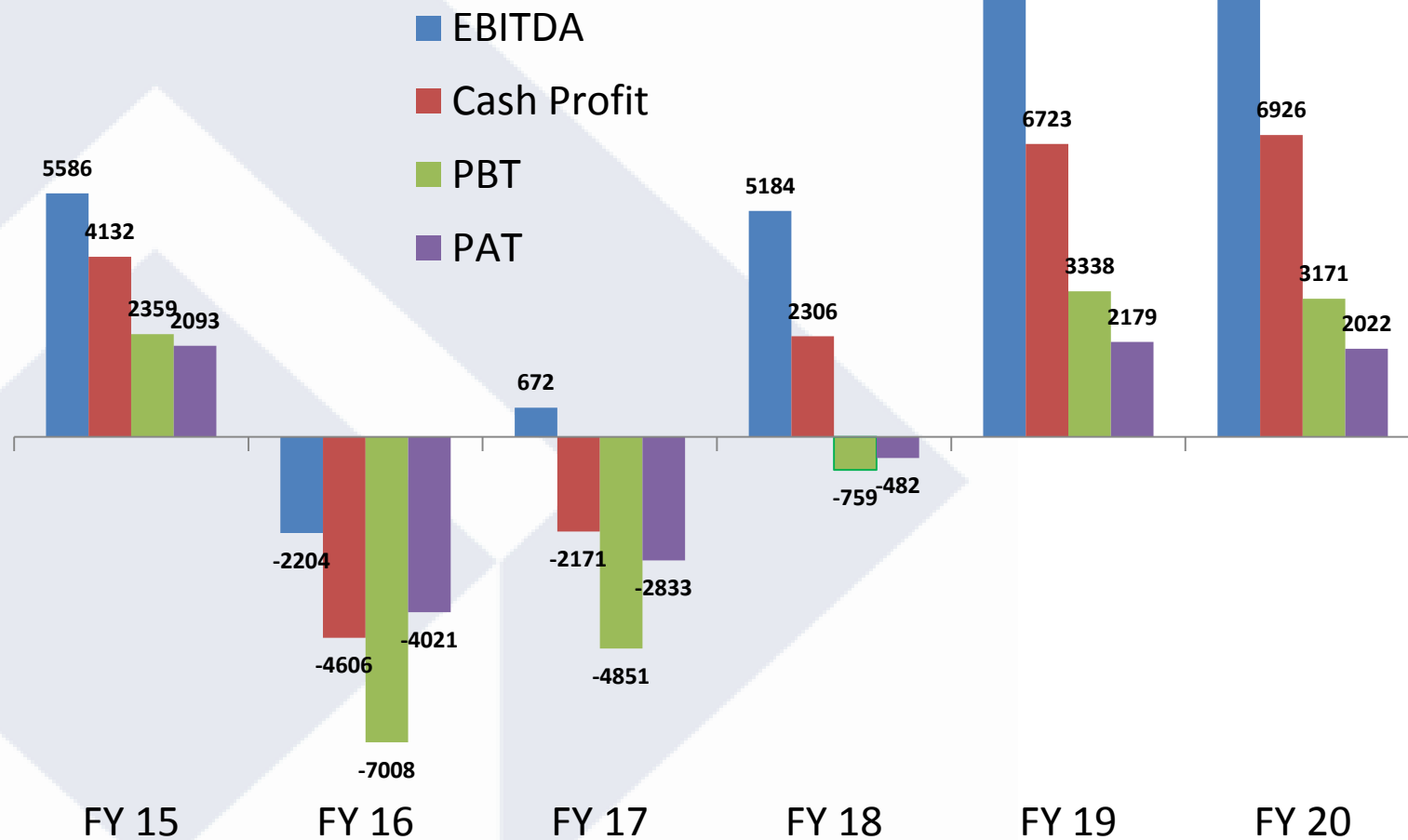
FINANCIAL PERFORMANCE

Rs. Crore (INDAS Compliant figures)	H1 FY 21	H1 FY 20	Q1 FY 21	Q2 FY 21	Q2 FY 20
Sales	25672	28596	8838	16834	13951
EBITDA	1973	3083	-125	2098	1318
Depreciation	1963	1774	973	990	901
Finance Cost	1607	1729	886	720	940
PBT Before Exceptional Items	-1597	-414	-1658	388	-519
Exceptional/Abnormal Items (VRS/Suspended Operations)	-222	-	-	-222	-
PBT After Exceptional Items	-1374	-419	-1985	610	-523
Tax	-497	-145	-715	217	-180
Profit After Tax	-877	-274	-1270	393	-343

FINANCIAL PERFORMANCE

Annual Profit Trend

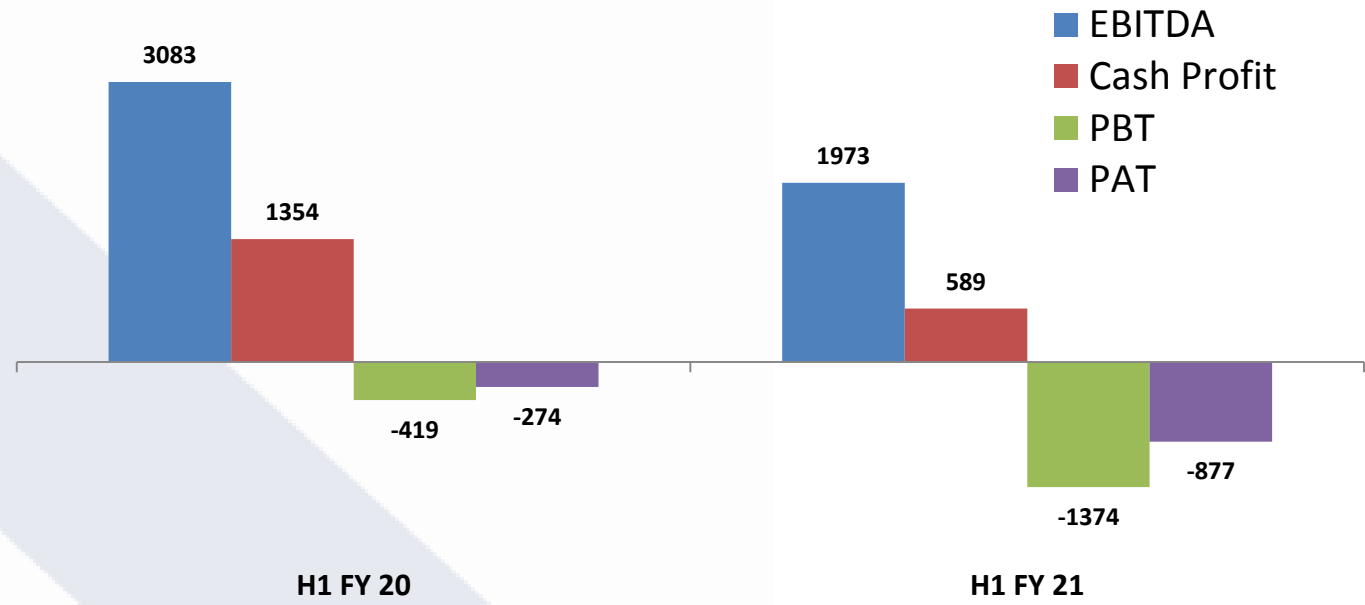
All figures in Rs crore



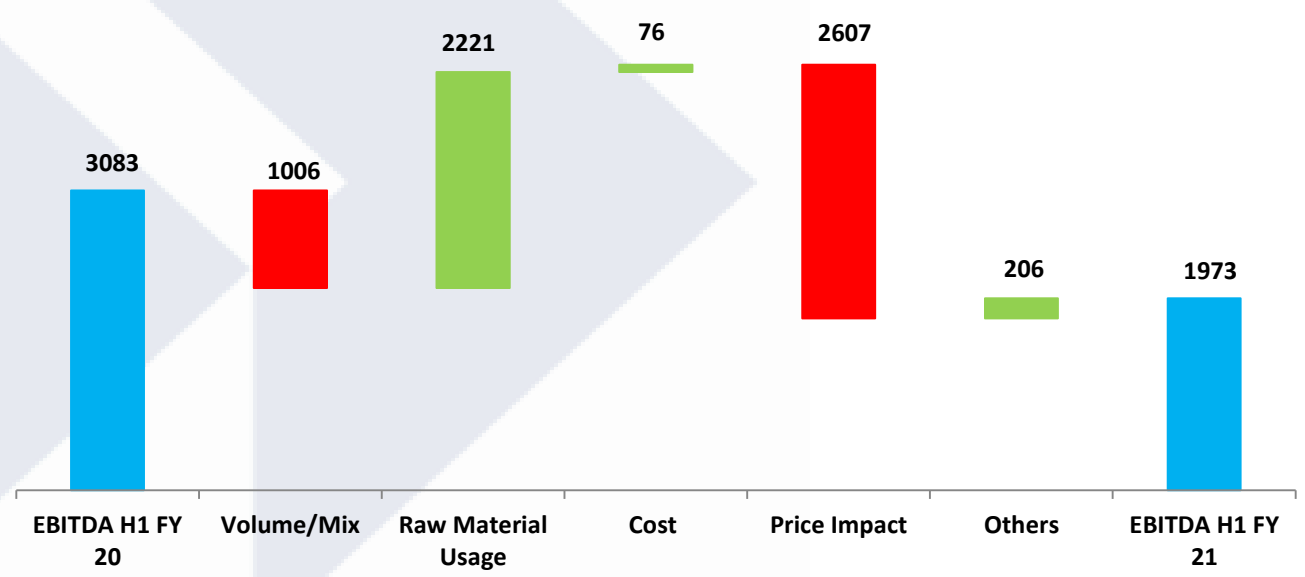
FINANCIAL PERFORMANCE



Half Yearly
Performance



EBITDA
Movement
H1 FY 21 vs
H1 FY 20



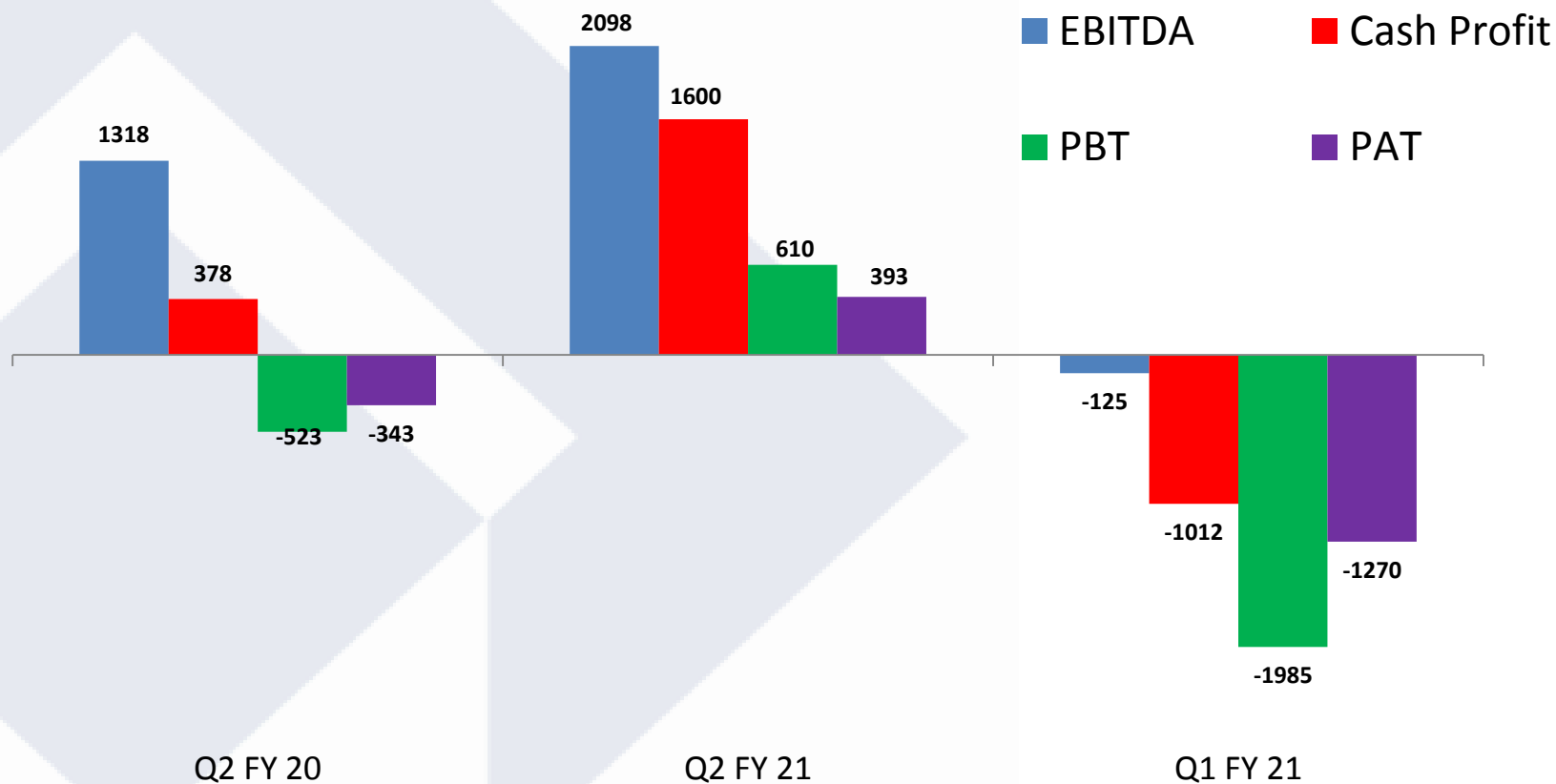
All figures in Rs crore

FINANCIAL PERFORMANCE

Quarterly Performance

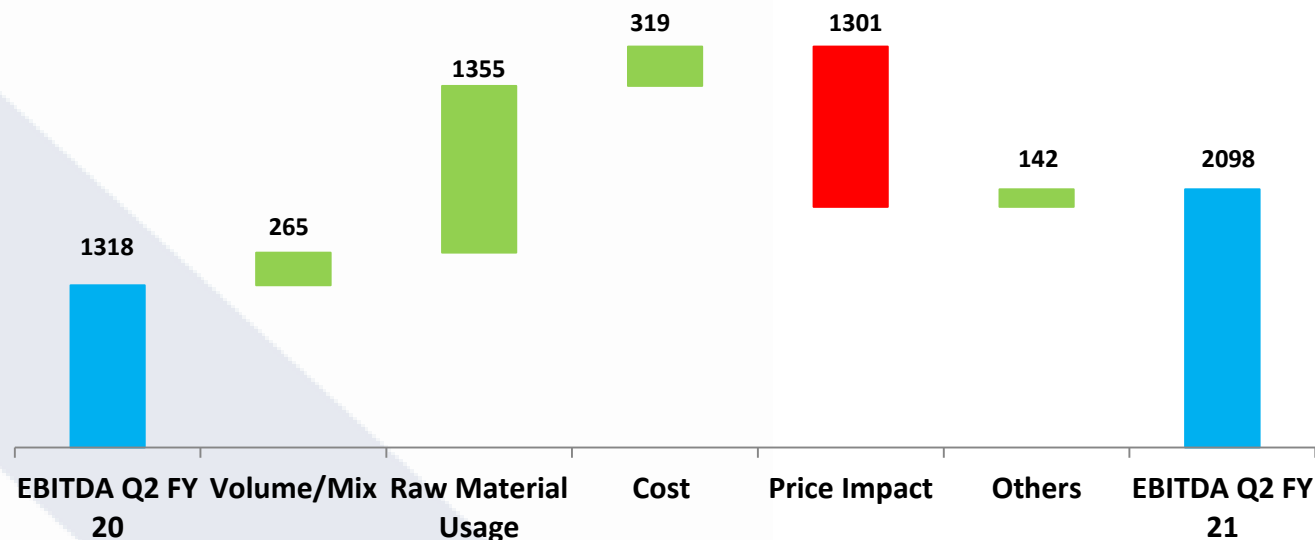
Q2 FY 20 vs Q2 FY 21 vs Q1 FY 21

All figures in Rs crore



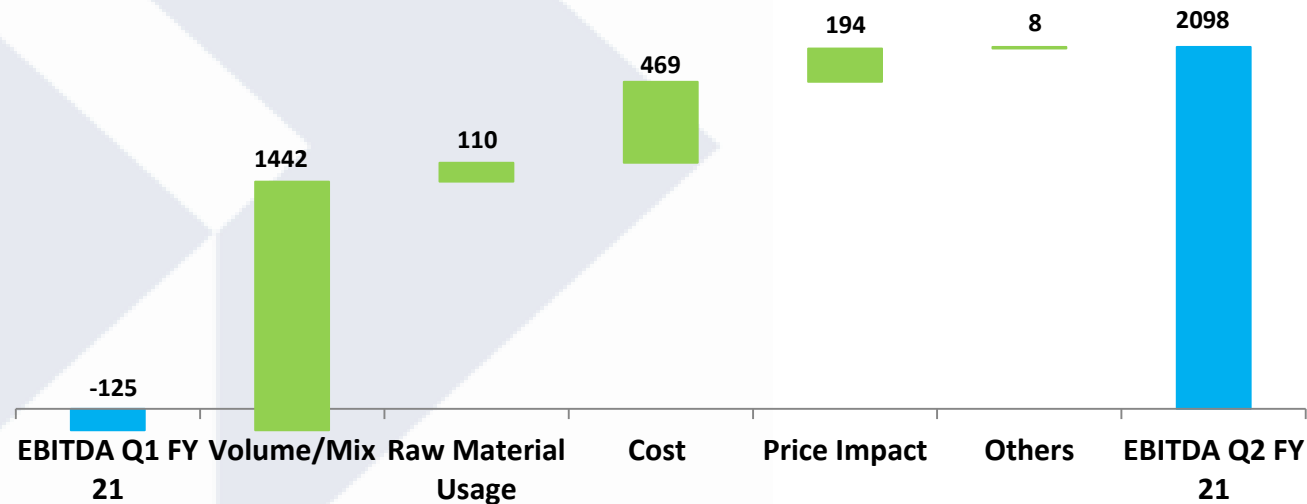
FINANCIAL PERFORMANCE

EBITDA Movement Q2 FY 21 vs Q2 FY 20



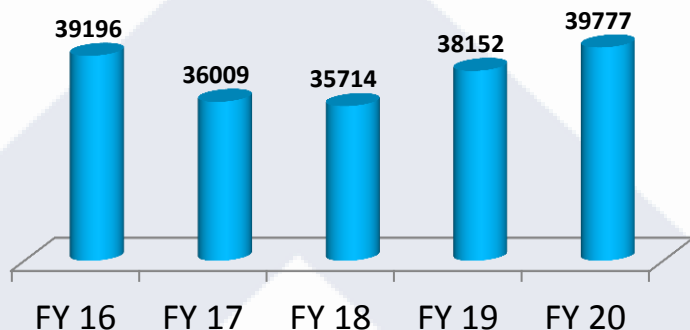
All figures in Rs crore

EBITDA Movement Q2 FY 21 vs Q1 FY 21

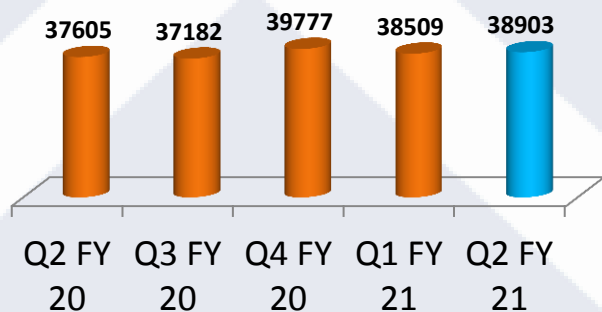


FINANCIAL PERFORMANCE

Annual Net Worth

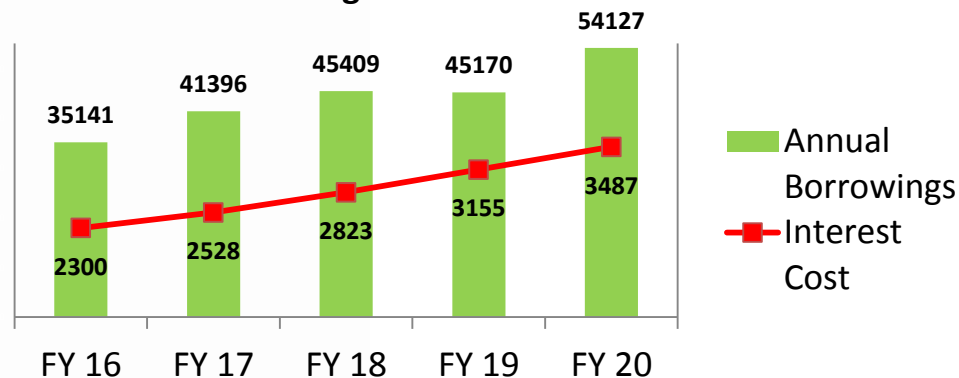


Quarterly Net Worth

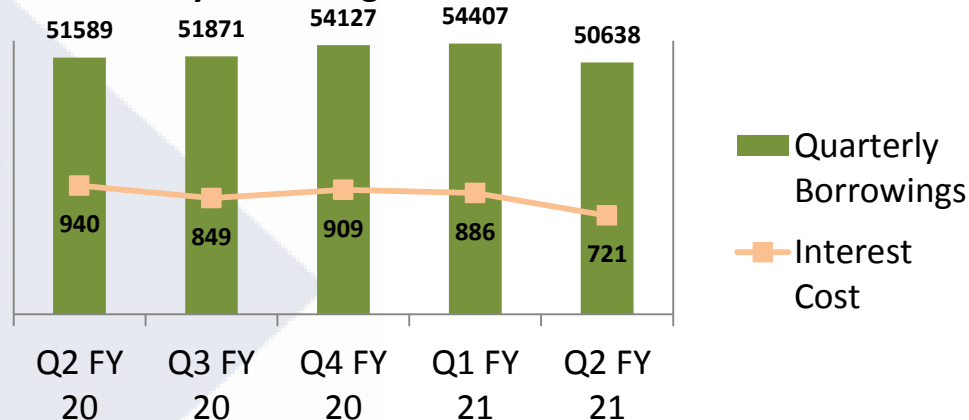


All figures in Rs. crore

Annual Borrowings & Interest cost



Quarterly Borrowings & Interest cost



Debt Equity Ratio

31/03/15	31/03/16	31/03/17	31/03/18	31/03/19	31/03/20	30/06/20	30/09/20
0.69	0.90	1.15	1.27	1.18	1.36	1.41	1.30

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Capacity Building



SAIL's MODERNISATION & EXPANSION PLAN

Million Tonne	Actual Production 2019-20	Capacity After On-going Expansion
Crude Steel	16.155	21.4
Saleable Steel	15.083	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

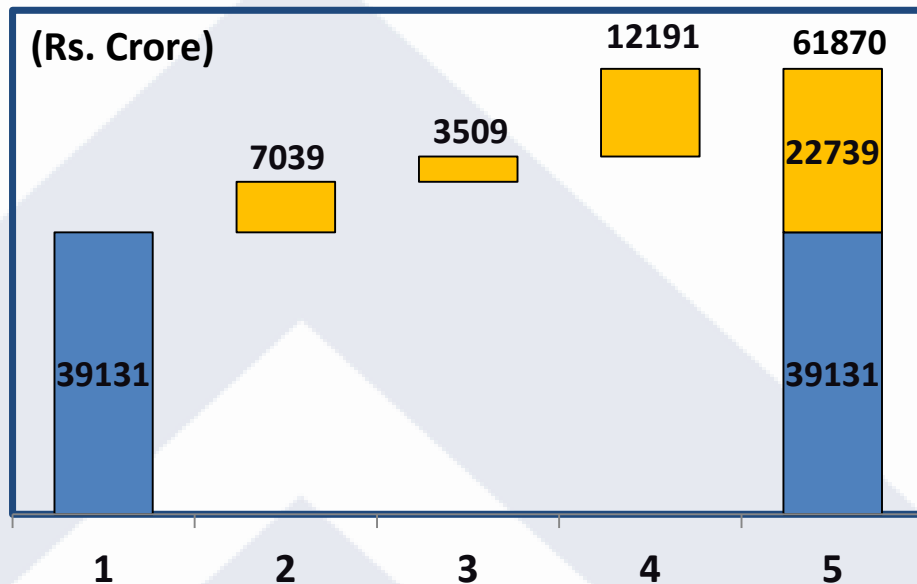
EXPECTED OUTCOME

- 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 m³ Blast Furnaces and one Blast Furnace of 4160 m³.
- 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:

- 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)

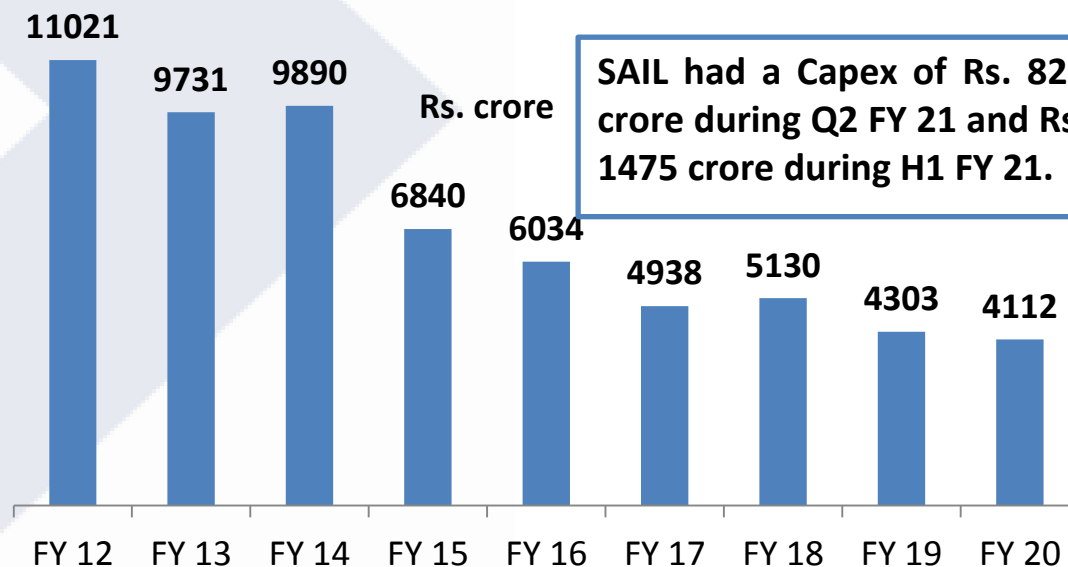


- 1 Expansion of existing capacity
- 2 Value-addition / Product-mix improvement
- 3 Technological up gradation / Modernization
- 4 Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

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

TOTAL CAPEX (INCL. ON MODERNISATION & EXPANSION)

Capex Plan for FY20 was Rs.4000 Crore (including expenditure towards Capital Repairs and Spares needed to be capitalised under Ind AS).

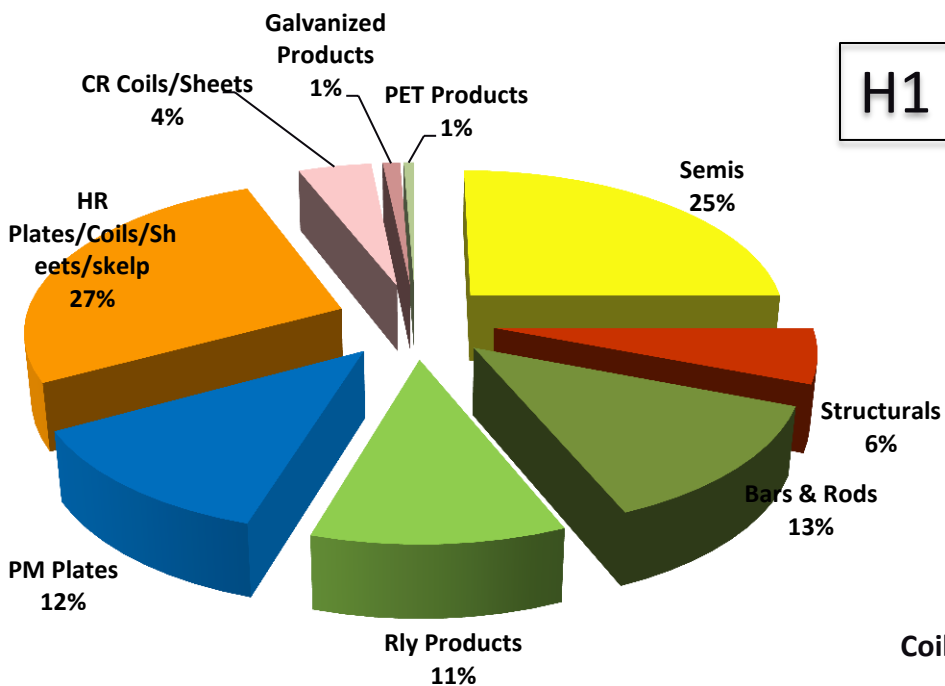


SAIL had a Capex of Rs. 822 crore during Q2 FY 21 and Rs. 1475 crore during H1 FY 21.

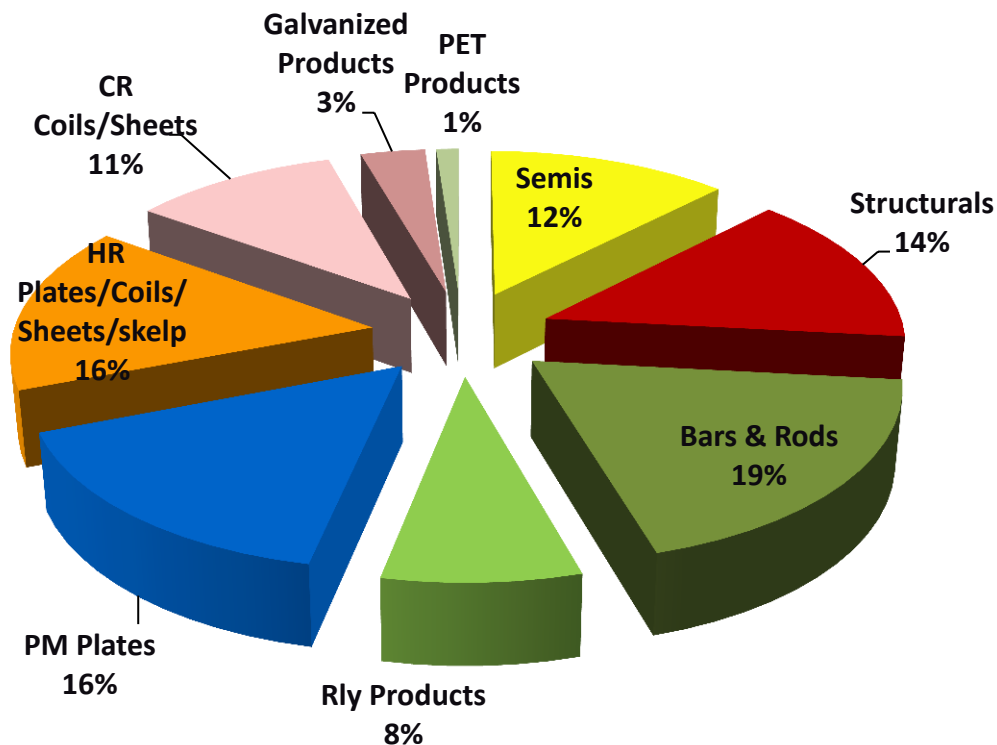
CAPACITY AFTER EXPANSION

Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
	2019-20	After Expansion	2019-20	After Expansion	2019-20	After Expansion
BSP	4.82	7.5	4.50	7.0	3.98	6.6
DSP	2.40	2.5	2.19	2.2	2.08	2.1
RSP	3.63	4.5	3.51	4.2	3.21	4.0
BSL	4.09	5.8	3.67	4.6	3.39	4.2
ISP	2.51	2.9	2.08	2.5	2.09	2.4
VISL	0.00	0.3	0.00	0.2	0.01	0.2
ASP	-	-	0.10	0.5	0.10	0.4
SSP	-	-	0.11	0.2	0.23	0.3
TOTAL	17.44	23.5	16.16	21.4	15.08	20.2

H1 FY 2020-21



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	2019-20 (Actual)	After Expansion
Crude Steel	0.11	0.18
Saleable Steel	0.23	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 m²)
- Blast Furnace 4160 m³ 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)

- New stream to produce 2.7 Mtpa of Hot Metal & 2.5 Mtpa of Crude Steel

Production (MTPA) :

Item	2019-20 (Actual)	After Expansion
Crude Steel	2.08	2.50
Saleable Steel	2.09	2.39

The expanded capacity of IISCO Steel Plant has been dedicated to the Nation by the Hon'ble Prime Minister on 10.05.2015.

Current Progress of Expansion at IISCO Steel Plant



**Coke Oven
Battery**



Sinter Plant

Blast Furnace



BOF Converters



Billet Casters



Wire Rod Mill

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).

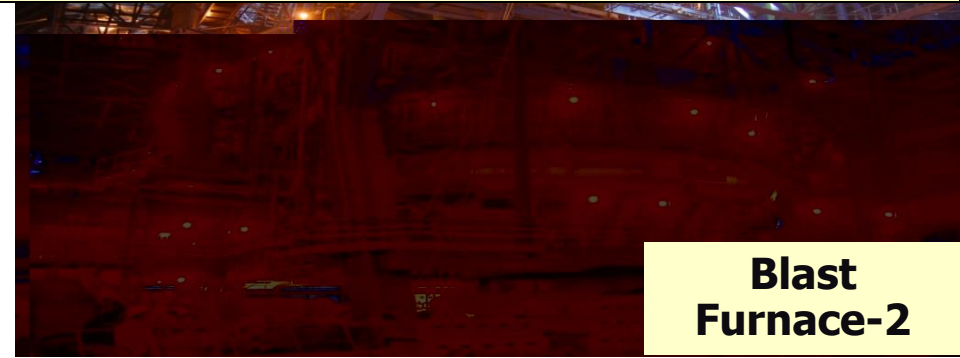
Production (MTPA) :

Item	2019-20 (Actual)	After Expansion
Crude Steel	3.67	4.61
Saleable Steel	3.39	4.18

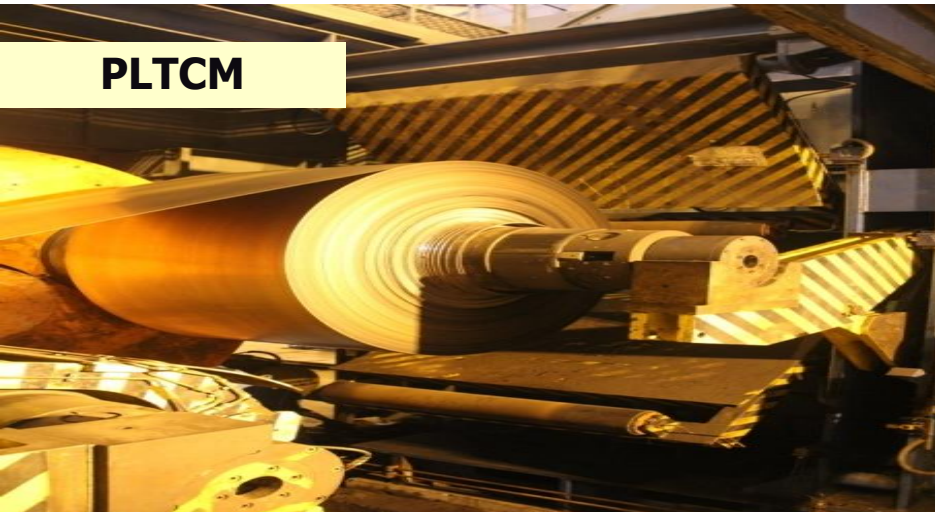
Current Progress of Expansion at Bokaro Steel Plant



**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 m³ (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	2019-20 (Actual)	After Expansion
Crude Steel	4.50	7.0
Saleable Steel	3.98	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 360m²)
- New Blast Furnace -5, useful volume - 4060 m³
- New 3rd Single Strand Slab Caster (1.5 MTPA)
- New Oxygen Plant 2x700 tpd on BOO basis
- New 3rd BOF (150 T) Convertor
- New 4.3 meter Wide Plate Mill

Production (MTPA) :

Item	2019-20 (Actual)	After Expansion
Crude Steel	3.51	4.20
Saleable Steel	3.21	3.99

The expanded capacity of Rourkela Steel Plant has been dedicated to the Nation by the Hon'ble Prime Minister on 01.04.2015.



Current Progress of Expansion at Rourkela Steel Plant



Coke Oven
Battery - 6



Sinter Plant - 3



Blast Furnace -
5 Tapping



3rd BOF Converter



3rd 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	2019-20 (Actual)	After Expansion
Crude Steel	2.19	2.20
Saleable Steel	2.07	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
2019-20	17.438	28.88	Existing Mines
Post Expansion	23.46	39	<p>The capacity of existing mines at Kiriburu, Meghahatuburu, Bolani & 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 & Generated Fines</p> <p>In addition to the above, new mechanised Iron Ore Mines are being developed at Rowghat, Chiria 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"> Expansion at Kiriburu has already been completed whereas Meghathaburu is being ramped up to meet the requirement of the ongoing expansion plan. At Bolani, processing plant has been upgraded to 7.5 mtpa and is under stabilization. At Gua, Stage II FC is awaited from MoEF required for expansion only Durgaiburu Lease.
Meghathaburu	5.00	6.50	
Bolani	7.50	10.00	
Gua	4.00	10.00	
Rajhara, Dalli	8.70	7.00**	
New Pellet Plants	New	7.00	<p>**Depleted resources and quality constraints</p> <ul style="list-style-type: none"> New Pellet Plants shall use the existing reserve of fines incl. dumps & slimes at captive mines.
Barsua, Kalta, Taldih	6.00	6.50	<ul style="list-style-type: none"> Environment clearance obtained & FC obtained on 23rd Oct. 2017 for ML-162 lease. Consequent to the order by the Hon'ble Supreme Court dated 11.05.2018 and grant of subsequent clearances by the Government of Odisha, production at Barsua mine resumed on 20.05.2018.
Rowghat	New	12.00	All statutory clearances have been received. MDO has been engaged and LOA issued to MDO on 1 st August 2017. MSA signed on 25.09.2017 for a period of 30 years.
Chiria	0.75	5.80	Stage-II FC awaited from MoEF.

* Finished Product capacity

■ The entire requirement of the increased capacity shall be met through captive mines

RAW MATERIALS – Coal

Year	Hot Metal (mtpa)	Coking Coal Requirement (mtpa)	Linkages of Coking Coal
2019-20	17.438	15.193	<ul style="list-style-type: none"> • Import Component – 90.5% • Over 70% of imported coal is sourced from Australia. • Indigenous: 9.5% • Domestic coal is largely sourced from Coal India Ltd. • SAIL has existing captive clean coking coal production of nearly 0.7 mtpa, During 2018-19, production was 0.27 mt.
Post Expansion	23.46	19.5	<ul style="list-style-type: none"> • Long term / Quarterly contracts cover 95% of Import requirements • Tasra captive coal mine being developed to produce 4 mtpa of ROM (1.8 mtpa washed coal) • New linkages / acquisitions are being explored. • Request has been made to Ministry of Coal for allocation of new potential coking coal blocks in line with recommendations of NITI Aayog.








STEEL AUTHORITY OF INDIA LIMITED










Strategic Partnerships





MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	REMARKS
STEEL	 	<ul style="list-style-type: none"> 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.
DOWNSTREAM STEEL PROCESSING UNITS	  	<ul style="list-style-type: none"> SAIL Bansal Service Center Limited – A JV with Bansal Metal Works Ltd. for a Flat Product service centre at Bokaro. SAIL SCL Kerala Limited – A JV with Govt. of Kerala for producing TMT Bars at Kozhikode. Prime Gold – SAIL JVC Limited – A JV with M/s Prime Gold for producing TMT Bars at Gwalior. VSL SAIL JVC Limited – A JV with M/s Velagapudi Steel Ltd. for producing TMT Bars at Ujjain.
ENERGY	 	<ul style="list-style-type: none"> JV with NTPC for operating and managing CPPs of Bhilai, Durgapur and Rourkela. JV with DVC for operating & managing CPP of Bokaro.

MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	REMARKS
TECHNOLOGY		<ul style="list-style-type: none"> 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.
RAW MATERIALS	     	<ul style="list-style-type: none"> International Coal Ventures Pvt. Ltd., a SPV of 5 leading PSUs incorporated (SAIL, RINL, CIL, NTPC & NMDC) for acquisition / operation of coal assets in overseas territories. M/s S&T Mining Company Pvt. Ltd. formed with Tata Steel for developing coking coal mines in India. M/s SAIL & MOIL Ferro Alloys (Pvt.) Ltd. formed with MOIL for production of Ferro-alloys at Bhilai.
CEMENT		<ul style="list-style-type: none"> Bhilai Jaypee Cement Ltd. -Slag based cement plant of 2.2 million tonne per annum capacity with grinding unit at Bhilai & clinkering unit at Satna.

MAJOR JOINT VENTURES

FOCUS AREA	ALLIANCE PARTNER	OBJECTIVE
WAGON MANUFACTURE	 THE INFRASTRUCTURE PEOPLE	<ul style="list-style-type: none">▪ 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.
E-PORTAL		<ul style="list-style-type: none">▪ JV with Tata Steel to promote e-commerce activities in steel and related areas

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
• BSP	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
• CPL	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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