

# STEEL AUTHORITY OF INDIA LIMITED



## RESULTS PRESENTATION FOR 9M & Q3 FY 2019-20



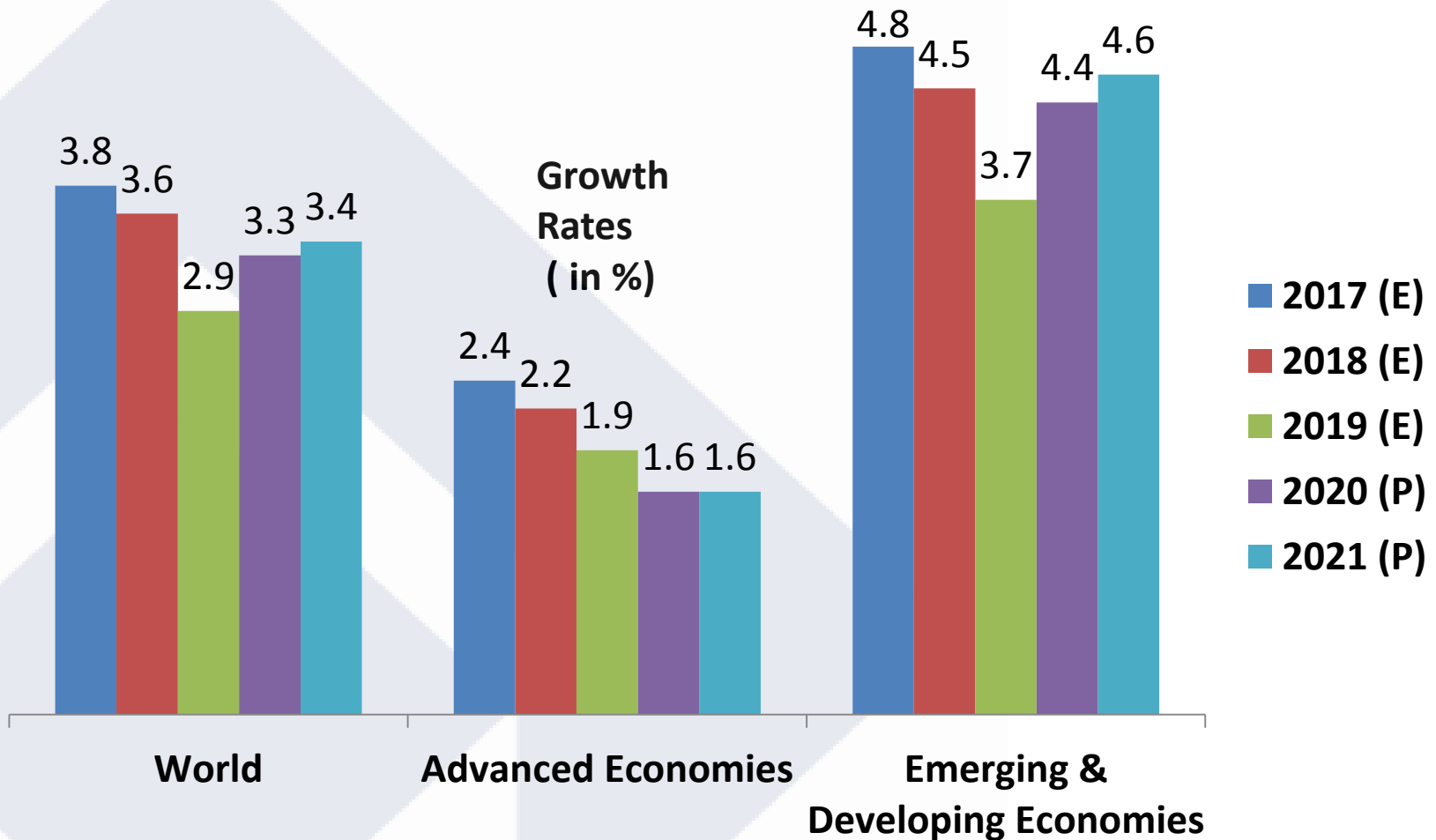
# STEEL AUTHORITY OF INDIA LIMITED



## Economic & Steel Scenarios

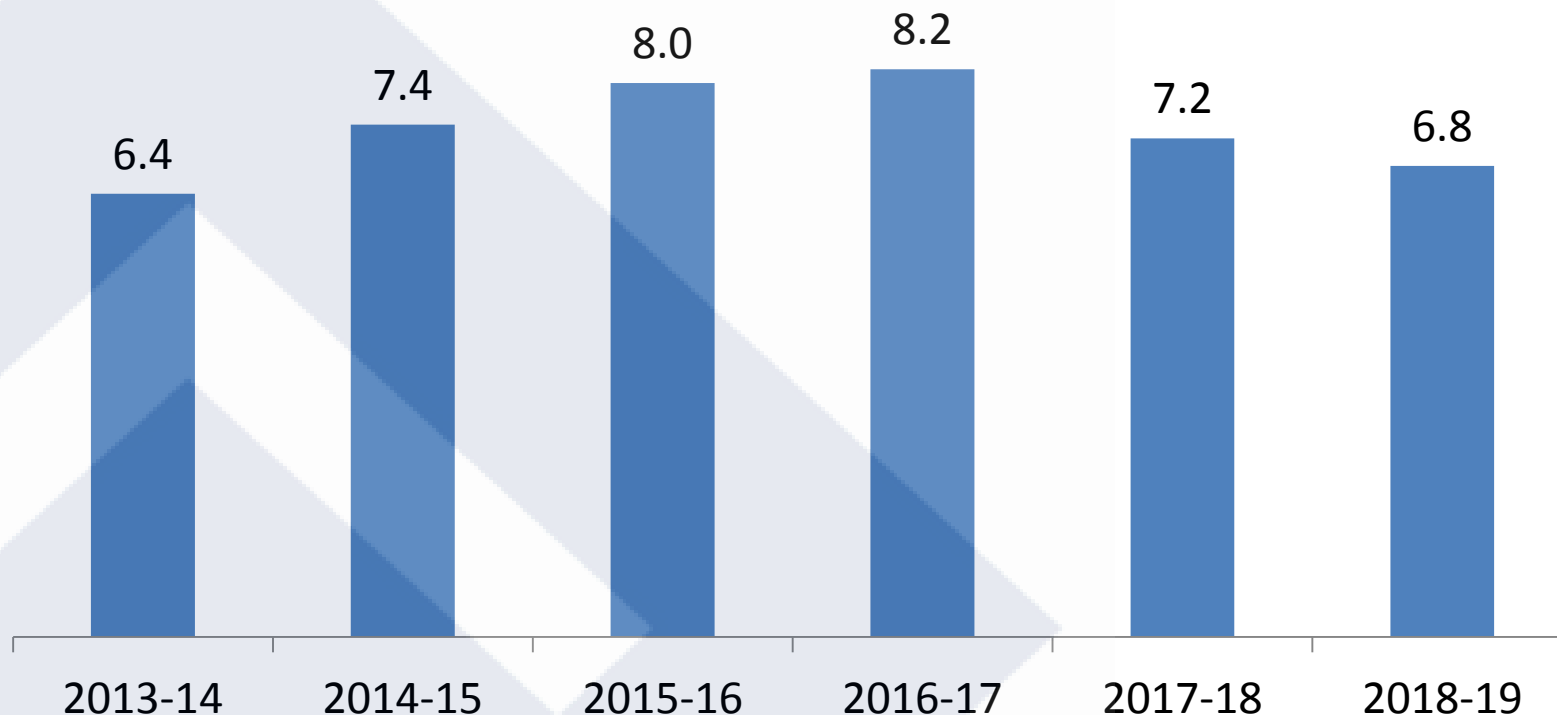


# WORLD ECONOMIC SCENARIO



*Global growth in 2020 & 2021 is projected at 3.3 and 3.4 percent*

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

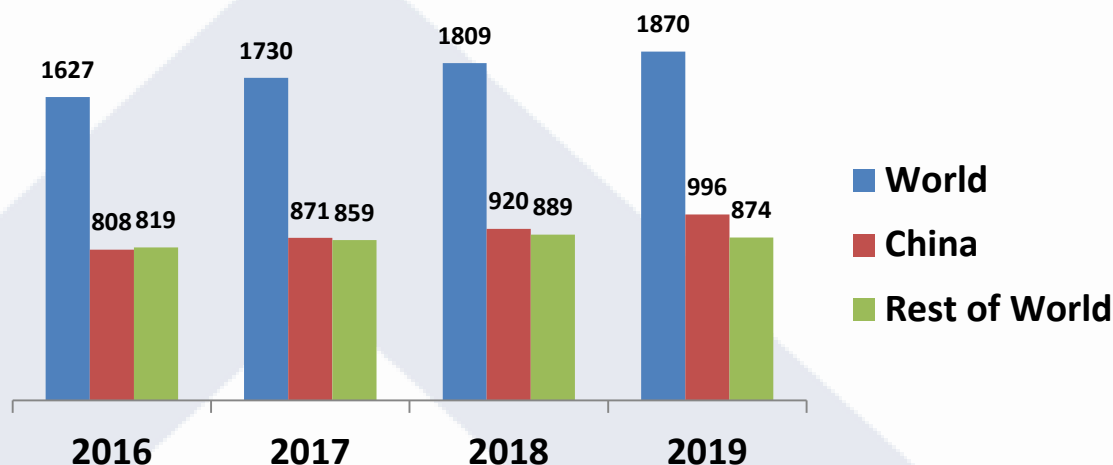


Source	Growth Projection
WORLD BANK	5% (FY20) and 5.8% (FY21)
IMF	5.8% (CY20) and 6.5% (CY21)
RBI	5% (FY20) and 6% (FY21)

SOURCE: CSO, GoI & Economic Survey

# WORLD STEEL SCENARIO

## Crude Steel Production (mtpa)



## (Crude Steel Production)

In 2019 : Asia : 1342 mtpa

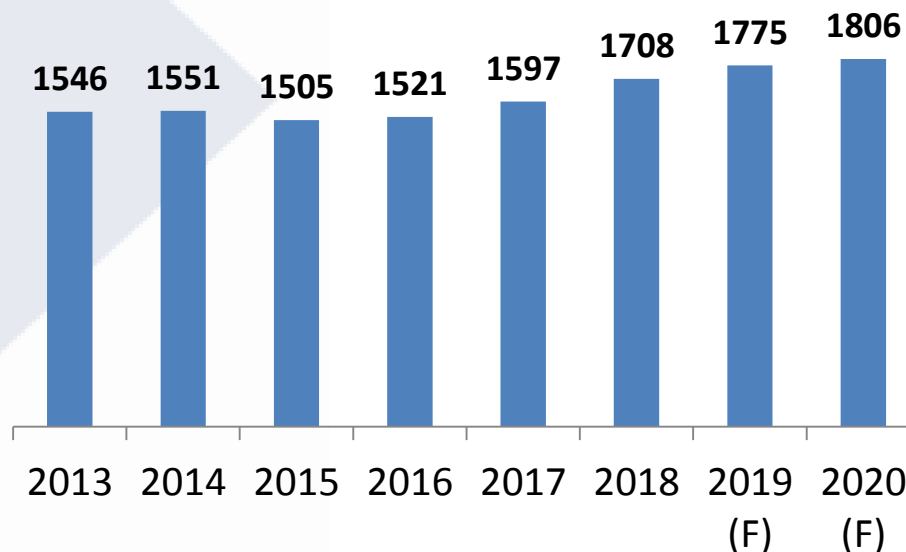
- China : 996 mtpa
- India : 111 mtpa
- Japan: 99 mtpa

USA : 88 mtpa

## **World Steel Association (WSA) forecast :**

- Global steel demand will increase by 3.9% in 2019 and 1.7% in 2020.
- China's growth is set to go down to 1% in 2020 from 7.8% in 2019.
- In the Emerging and Developing Economies excluding China, steel demand is forecast to grow by 0.4% in 2019 and 4.1% in 2020.
- India expected to grow at 5% and 7% in 2019 and 2020 respectively.

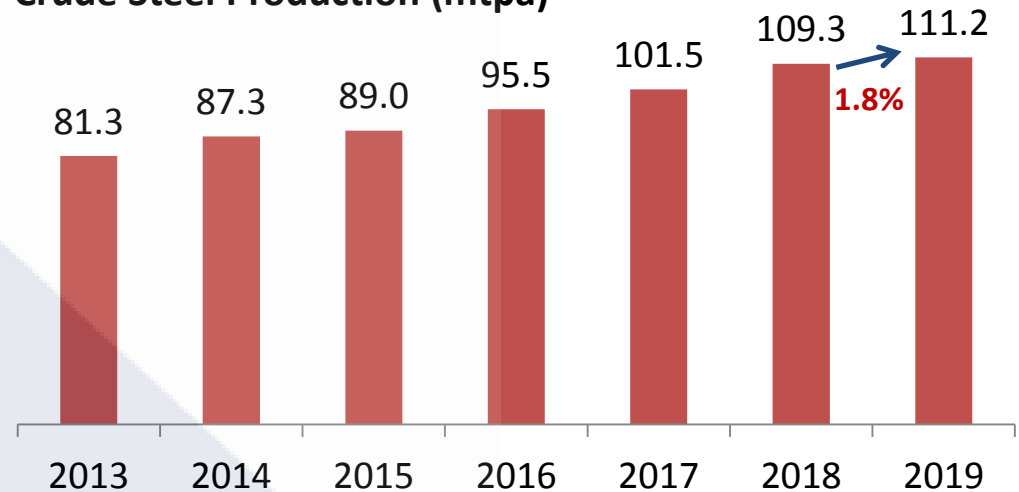
## Finished Steel Consumption (mtpa)



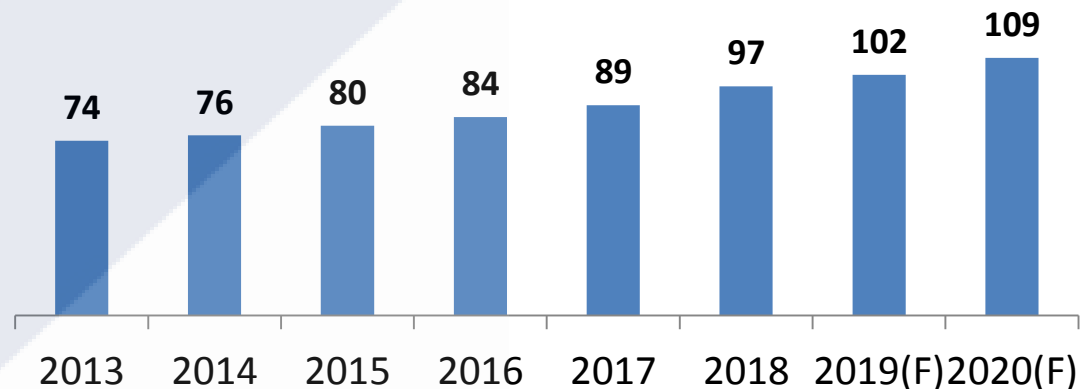
- India's Crude steel production (2019) :  
**111.2mtpa** (growth of **1.8 %** over 2018)
- As per WSA, Short Range Outlook, demand in India is set to grow at 5.0% in 2019 and 7.0% in 2020.
- India to overtake USA as the second largest consumer of steel in 2019.

**Source: WSA**

**Crude Steel Production (mtpa)**



**Finished Steel Consumption (mtpa)**



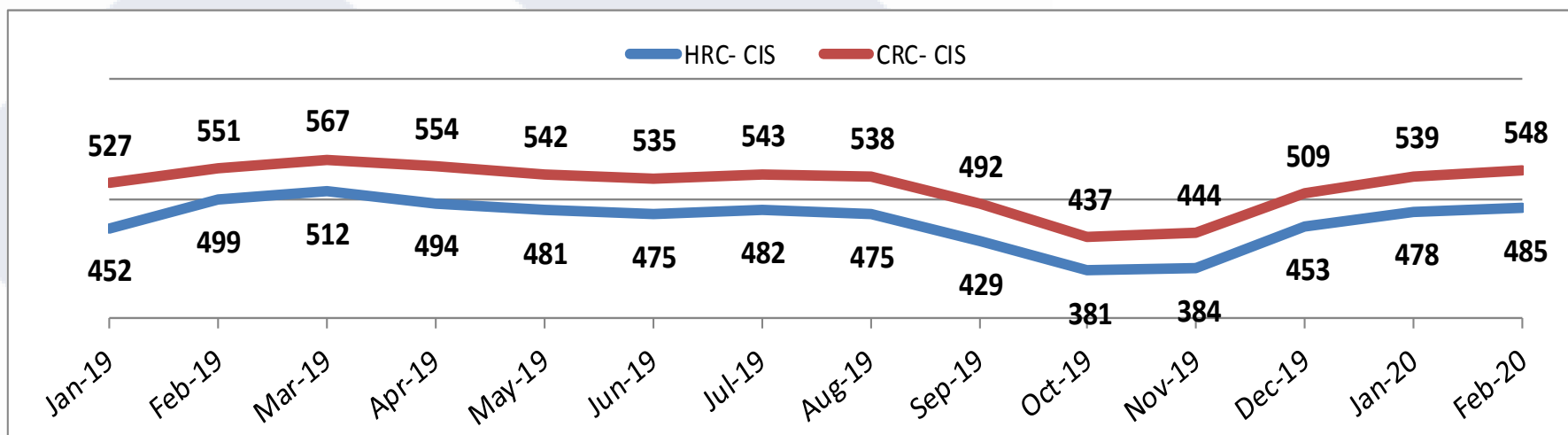
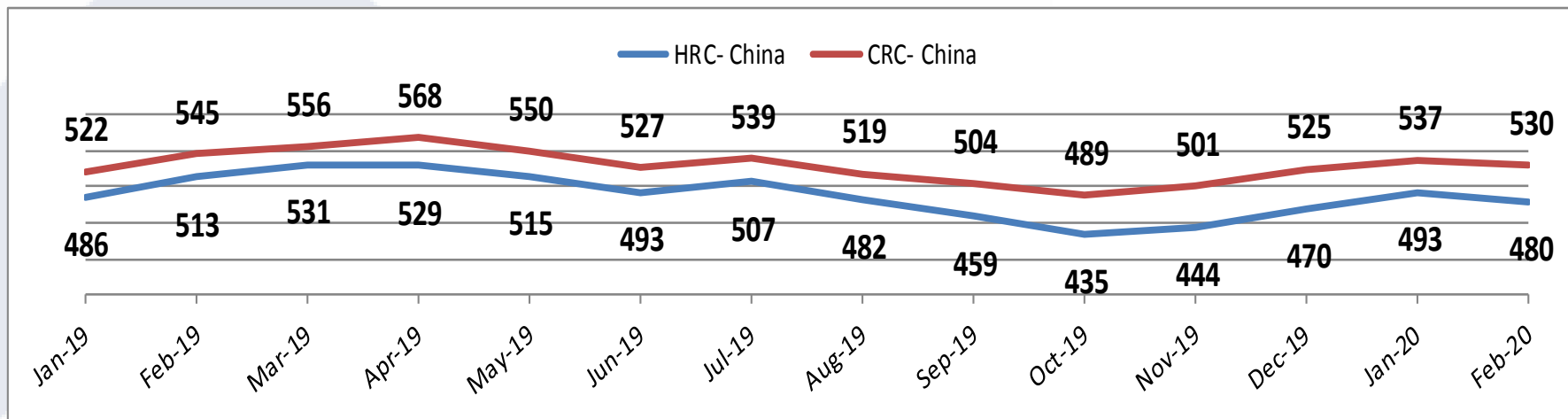
INDICATORS	UNIT	9M 19-20	9M 18-19	% +/- Over CPLY
Growth in Index of Industrial Production <sup>^</sup>	%	0.6	5.0	-4.40
Production - Finished Steel *	MT	76.33	74.97	1.8
Imports - Finished Steel *	MT	5.51	5.91	-6.7
Exports - Finished Steel *	MT	6.52	4.68	39.4
Real Consumption of Finished Steel *	MT	75.05	72.33	3.8

<sup>^</sup> As per CSO April -Nov data

\*Source JPC Report

# INTERNATIONAL PRICE (FOB) TREND

USD/Tonne



# STEEL AUTHORITY OF INDIA LIMITED



## Performance Highlights



# PERFORMANCE HIGHLIGHTS : 9M FY'20

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## **FINANCIAL PERFORMANCE**

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- ❖ Sales : Rs 45000 Crore
- ❖ EBITDA : Rs 4267 Crore
- ❖ PBT : - Rs 1011 Crore
- ❖ PAT : - Rs 704 Crore

## **PRODUCTION & SALES PERFORMANCE**

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- ❖ Hot Metal Production : 12.838 MT
- ❖ Crude Steel Production : 11.842 MT
- ❖ Saleable Steel Production : 11.107 MT
- ❖ Semis component in production : 20.75 % of saleable steel
- ❖ Value Added Production : 4.683 MT
- ❖ Production through concast route : 10.611 MT
- ❖ Saleable Steel Sales : 10.487 MT

# PERFORMANCE HIGHLIGHTS : Q3 FY'20

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## **FINANCIAL PERFORMANCE**

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- ❖ Net Sales : Rs 16405 Crore
- ❖ EBITDA : Rs 1184 Crore
- ❖ PBT : - Rs 591 Crore
- ❖ PAT : - Rs 430 Crore

## **PRODUCTION & SALES PERFORMANCE**

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- ❖ Hot Metal Production : 4.315 MT
- ❖ Crude Steel Production : 4.022 MT
- ❖ Saleable Steel Production : 3.891 MT
- ❖ Semis component in production : 21.82% of saleable steel
- ❖ Value Added Production : 1.586 MT
- ❖ Production through concast route : 3.770 MT
- ❖ Saleable Steel Sales : 4.090 MT

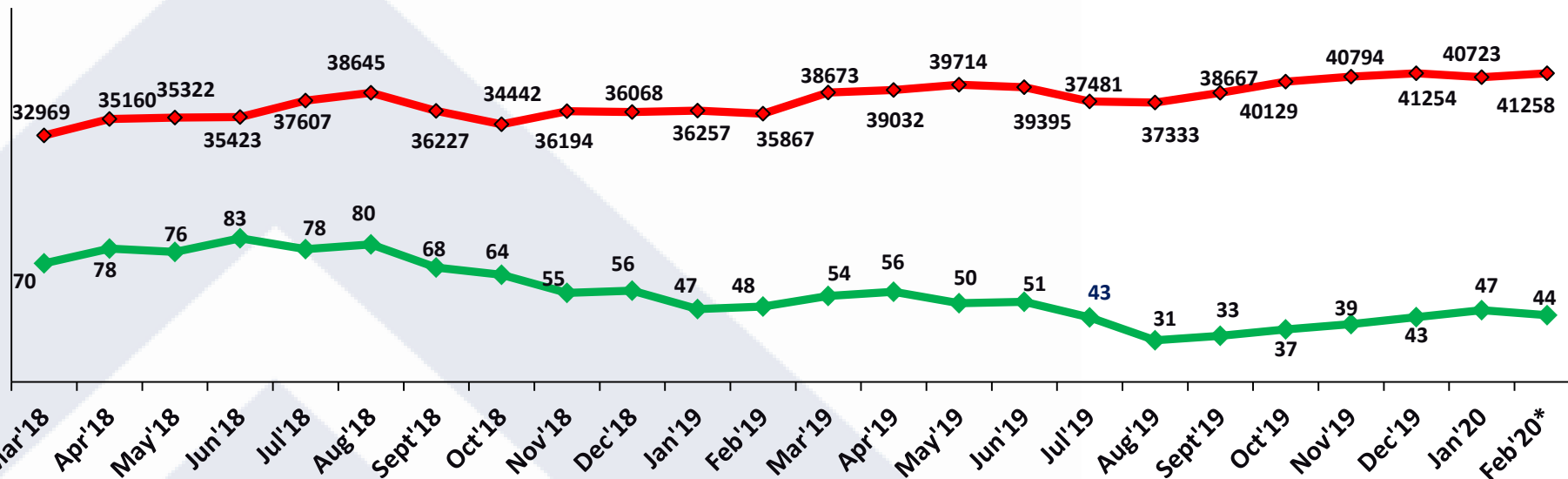
# SAIL STOCK PRICE MOVEMENT



सेल SAIL

◆ SAIL's Share Price (Rs.)

◆ Sensex Points



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

\* As on Feb 14, 2020

## DIVIDEND PAYOUT

	Interim (%)	Final (%)	Total (%)	Dividend (Rs. crore)	Dividend Tax (Rs. crore)
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
FY13	16	4	20	826	134

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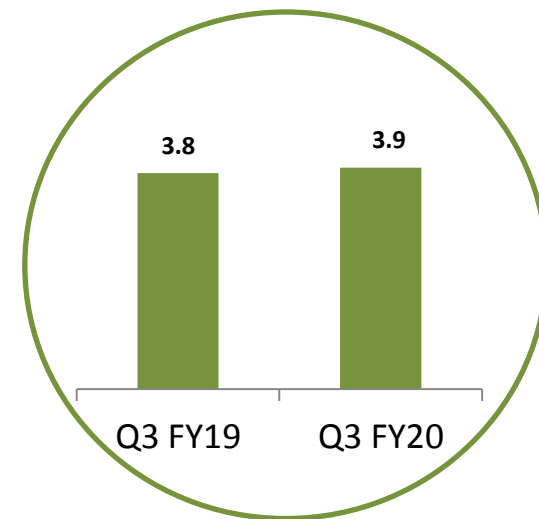
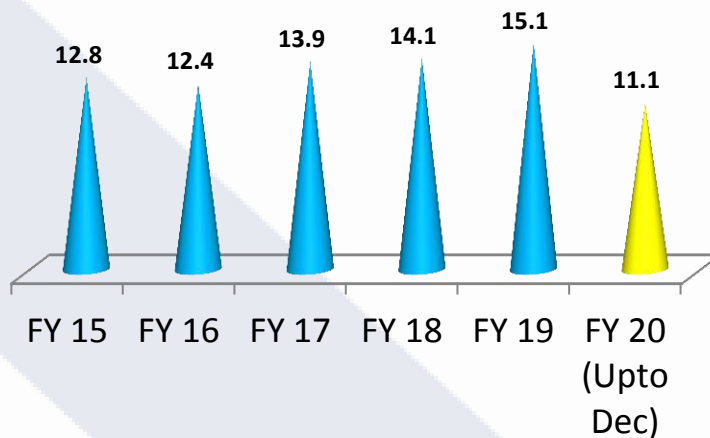
## Operational Performance



# PRODUCTION PERFORMANCE

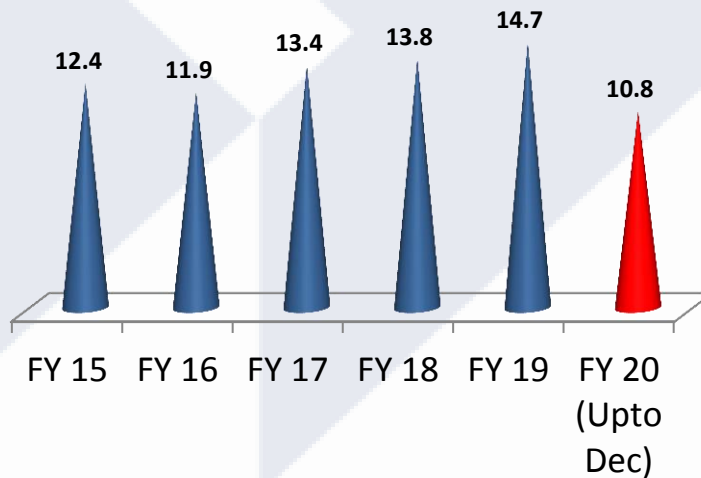
All figures In Million Tonne

## SALEABLE STEEL PRODUCTION (incl. SSPs)

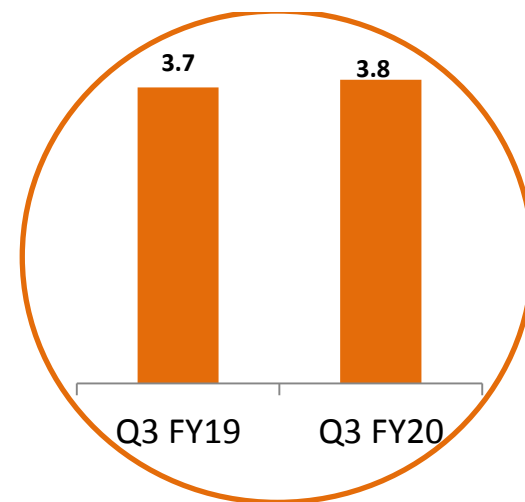


## Annual

## SALEABLE STEEL PRODUCTION (5 ISPs)



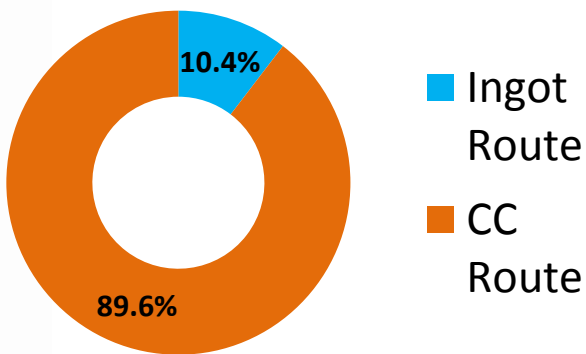
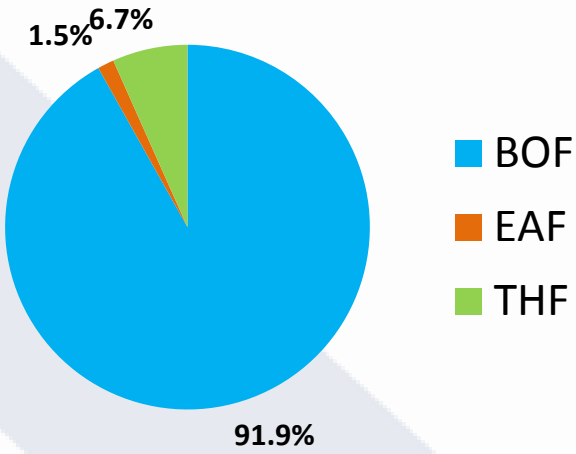
## Quarterly



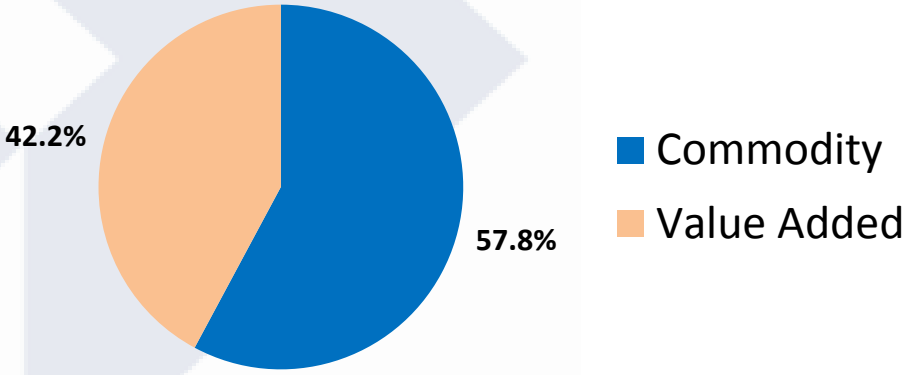
# PRODUCTION PERFORMANCE : FY20



## CRUDE STEEL PRODUCTION BY PROCESS

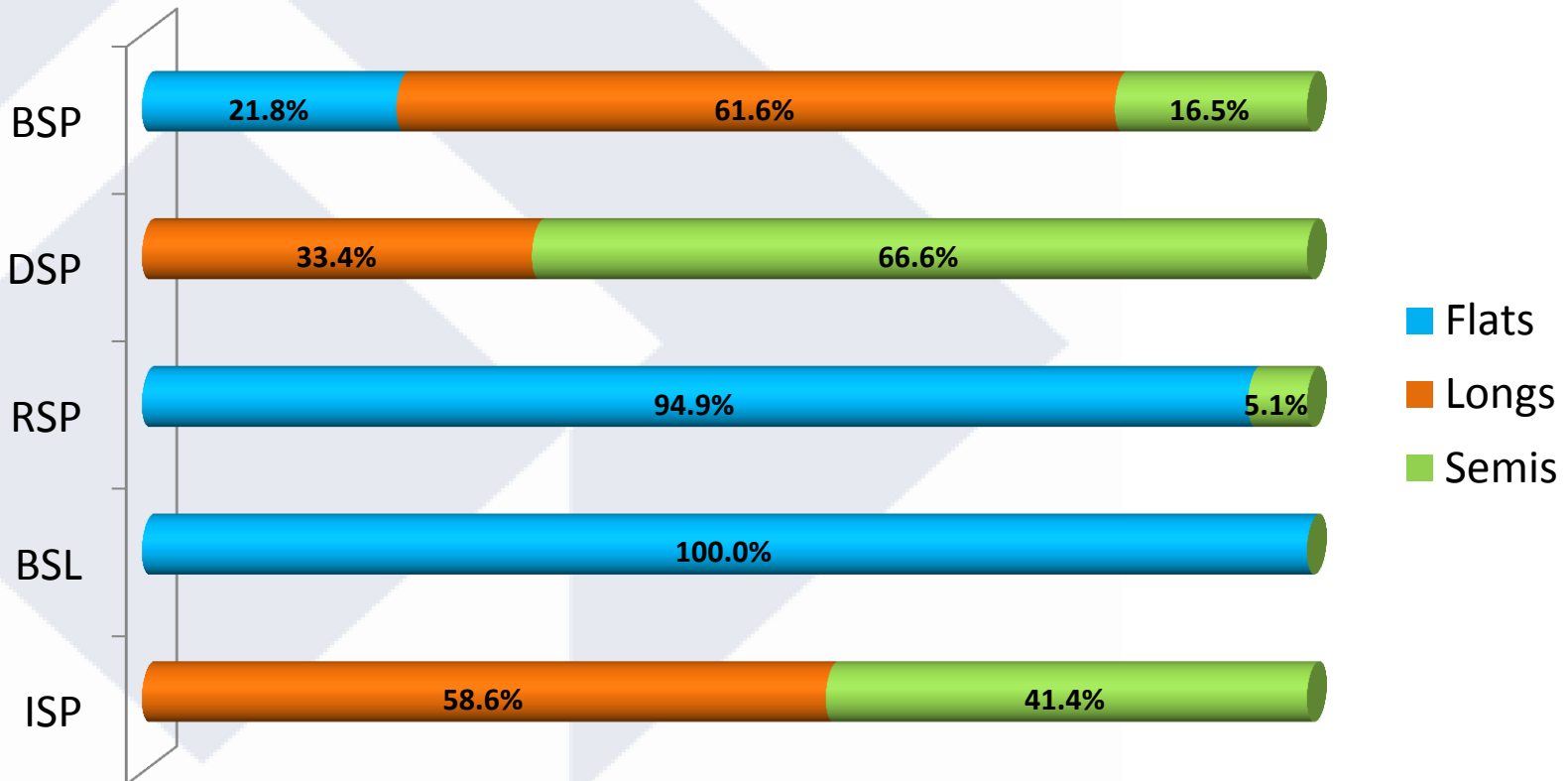
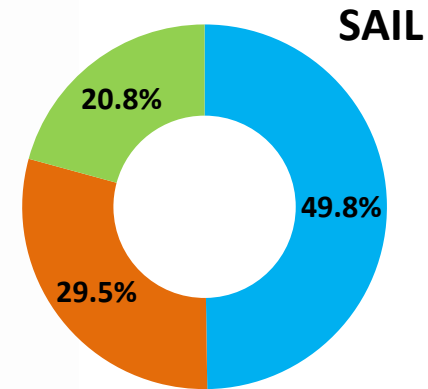


## SALEABLE STEEL PRODUCTION BY PROCESS



# PRODUCTION PERFORMANCE : FY 20

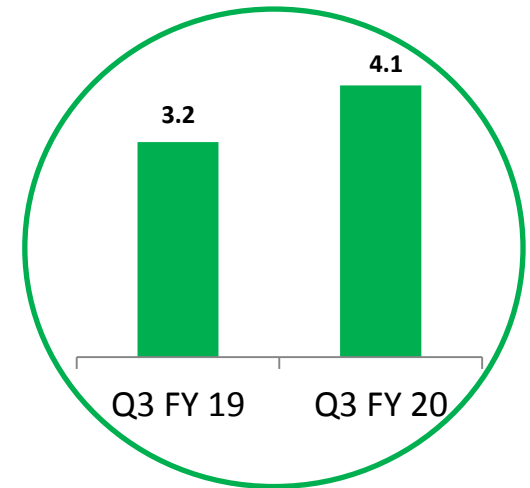
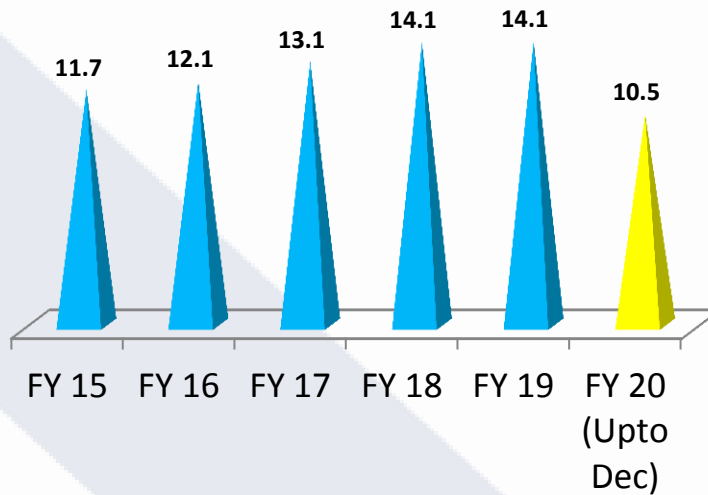
## PRODUCT MIX : 5 ISPs



# SALES PERFORMANCE

All figures In Million Tonne

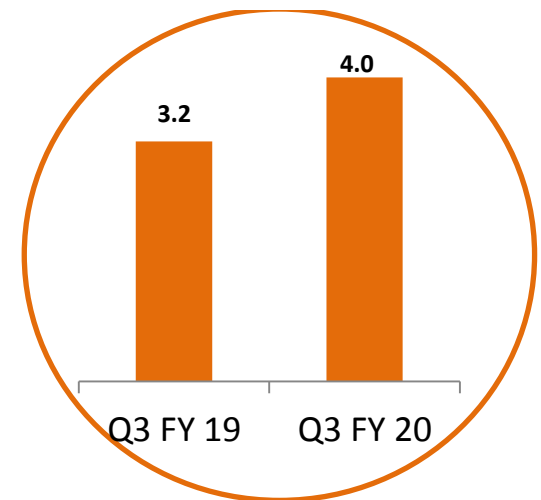
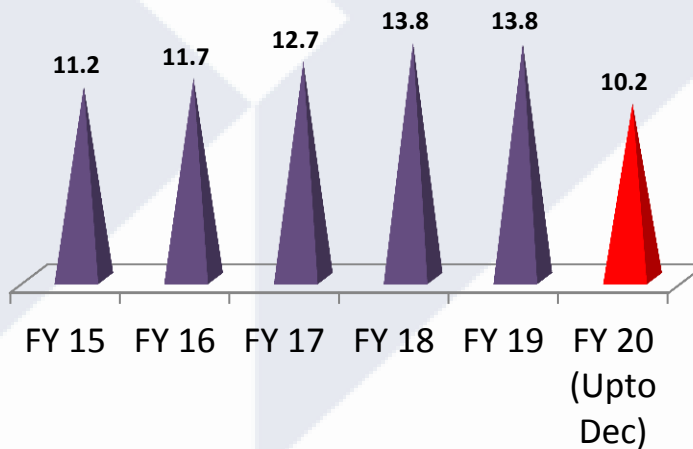
## TOTAL SALES (incl. SSPs)



## Annual

## Quarterly

## SALES OF 5 ISPs



# STEEL AUTHORITY OF INDIA LIMITED



**Efficiency &  
Sustenance  
Performance**

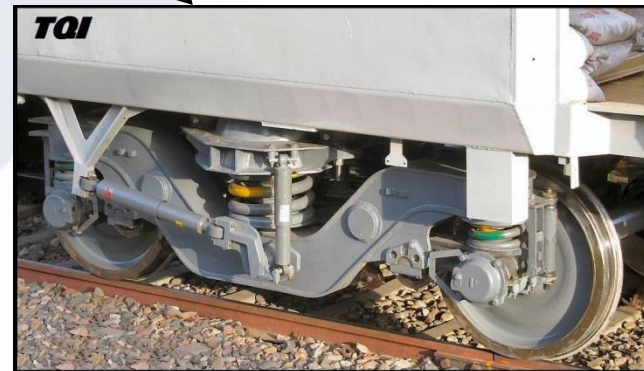


# RECENTLY DEVELOPED PRODUCTS

NARROW PARALLEL  
FLANGE BEAM 750:  
USAGE IN  
CONSTRUCTION  
INDUSTRY



LINKE HOFMANN  
BUSCH (LHB) WHEELS:  
USAGE FOR RAILWAYS



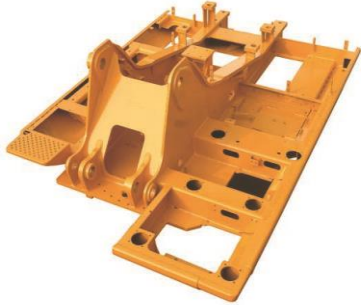
# PRODUCT CUSTOMISATION FOR END USERS

## HYVA TIPLERS



HSMP AND PMP  
GRADE: IS  
2062E450, E600

Main Frame



Track Frame



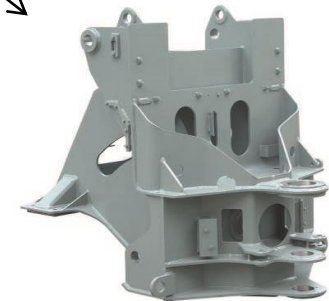
Boom



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

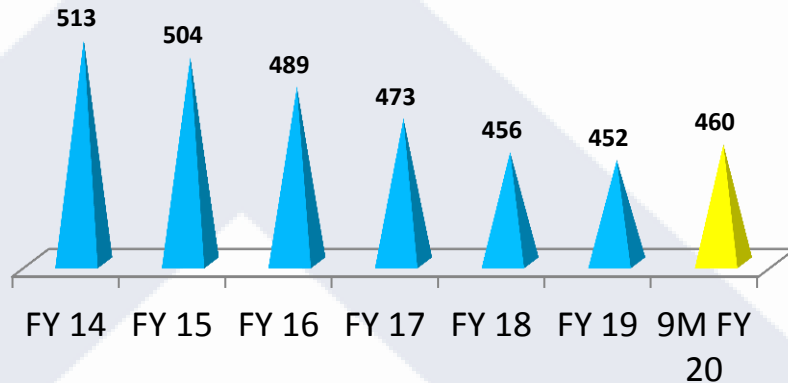


Dummy Axle Beam



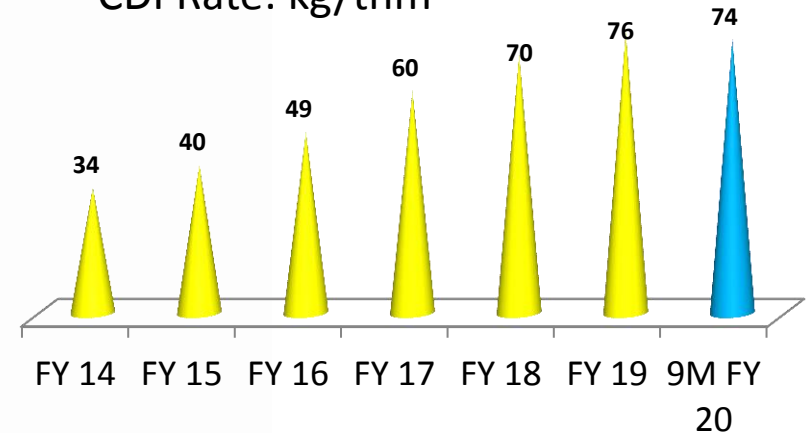
# TECHNO-ECONOMIC PARAMETERS

Coke Rate: kg/thm



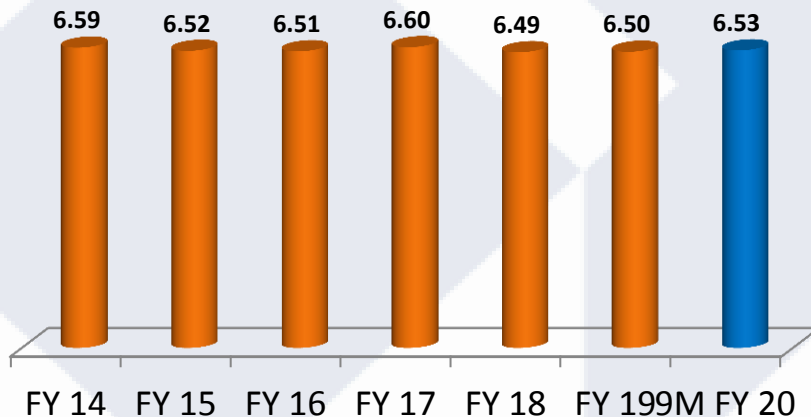
Reduction of 10% over FY14

CDI Rate: kg/thm



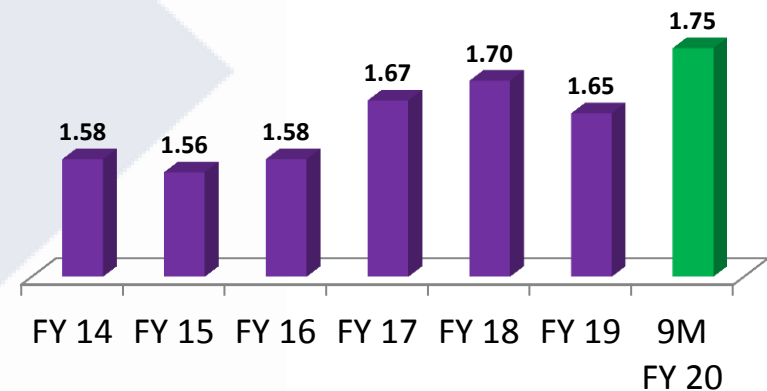
Increase of 118% over FY14

Specific Energy Consumption: GCal/tcs



Reduction of 1% over FY14

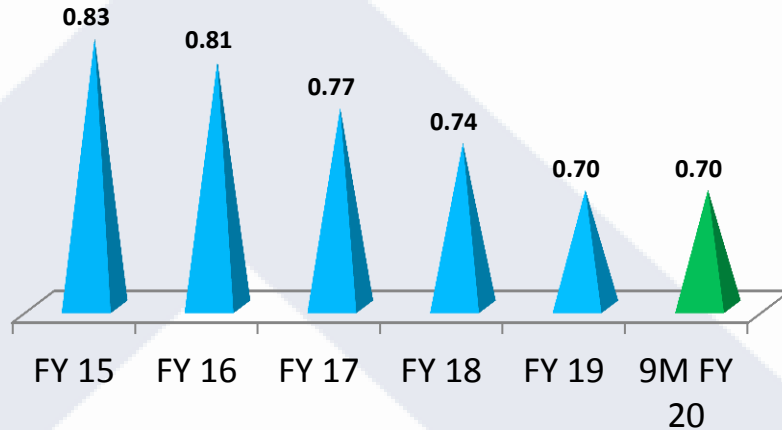
BF Productivity: T/m<sup>3</sup>/Day



Improvement of 11% over FY14

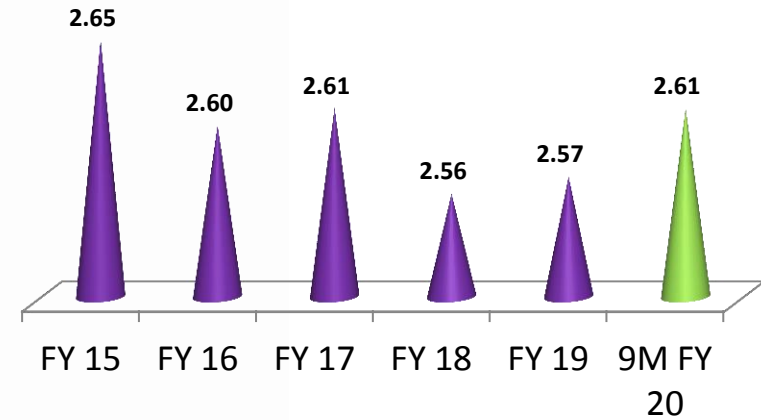
# SUSTAINANCE PARAMETERS

PM Emission Load: kg/tcs



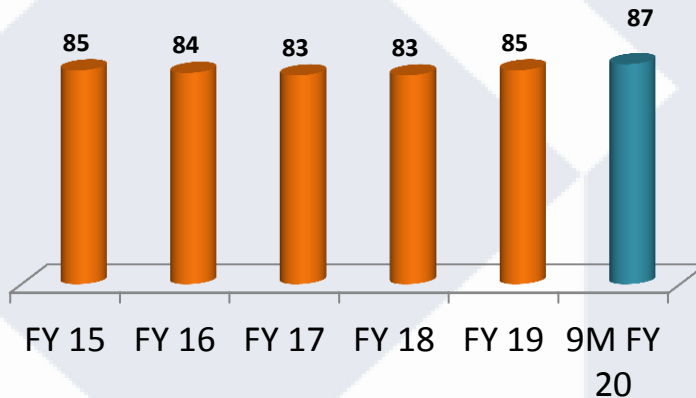
Reduction of 16% over FY15

Specific CO2 Emission: m3/tcs



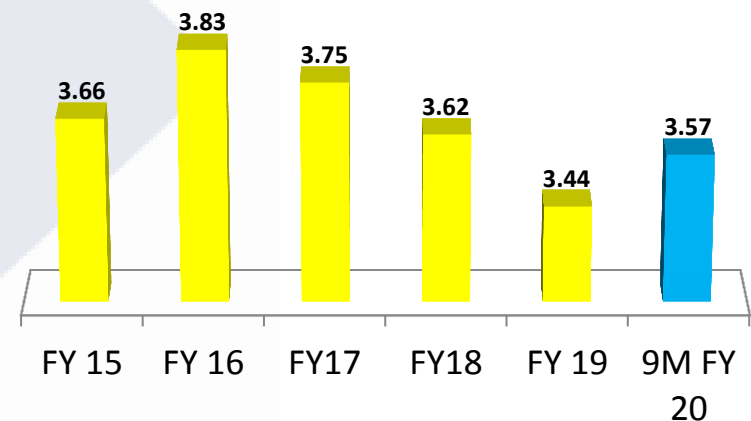
Reduction of 2% over FY15

Solid Waste Utilisation (%)



Consistent Utilisation of Solid Waste

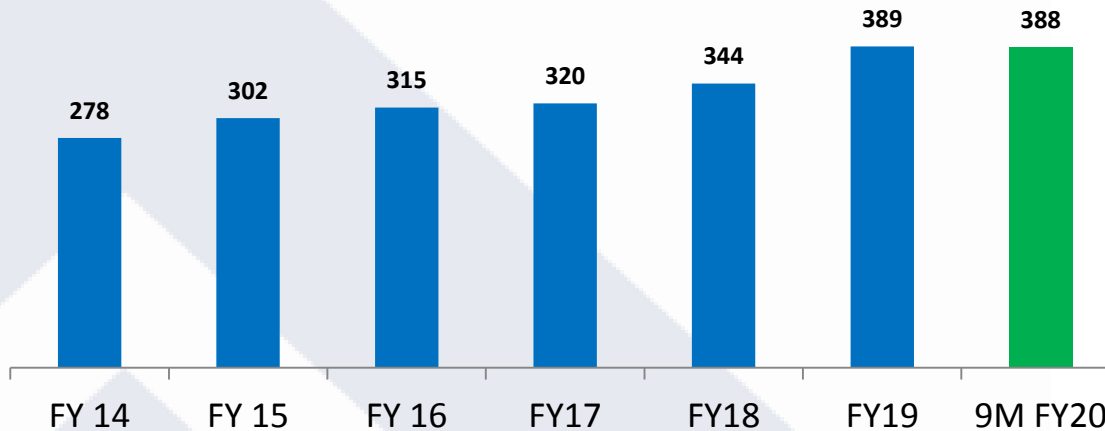
Specific Water Consumption: m3/tcs



Reduction of 2% over FY15

# MANPOWER PERFORMANCE

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



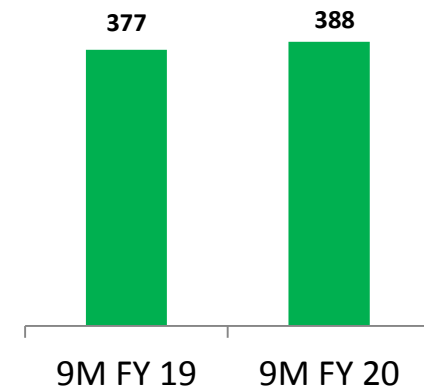
Improvement  
of 40% over  
FY14

## MANPOWER

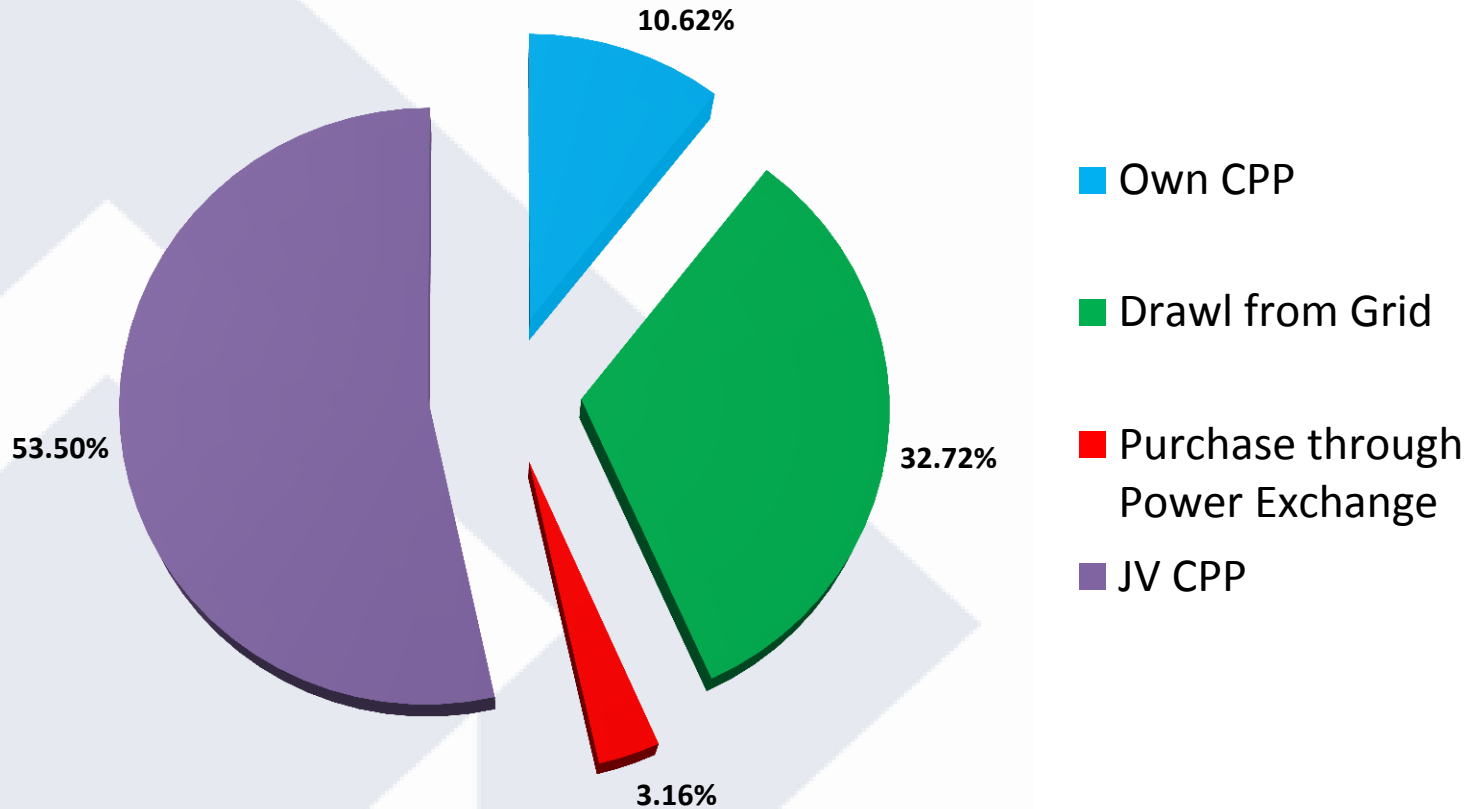
Total manpower as on 01.01.2020: **70246**

Reduction in 2019-20: **2093**

## LABOUR PRODUCTIVITY 9M FY 20 VIS-À-VIS CPLY (tcs/man/year)



# POWER CONSUMPTION – FY 19



# STEEL AUTHORITY OF INDIA LIMITED



## Financial Performance

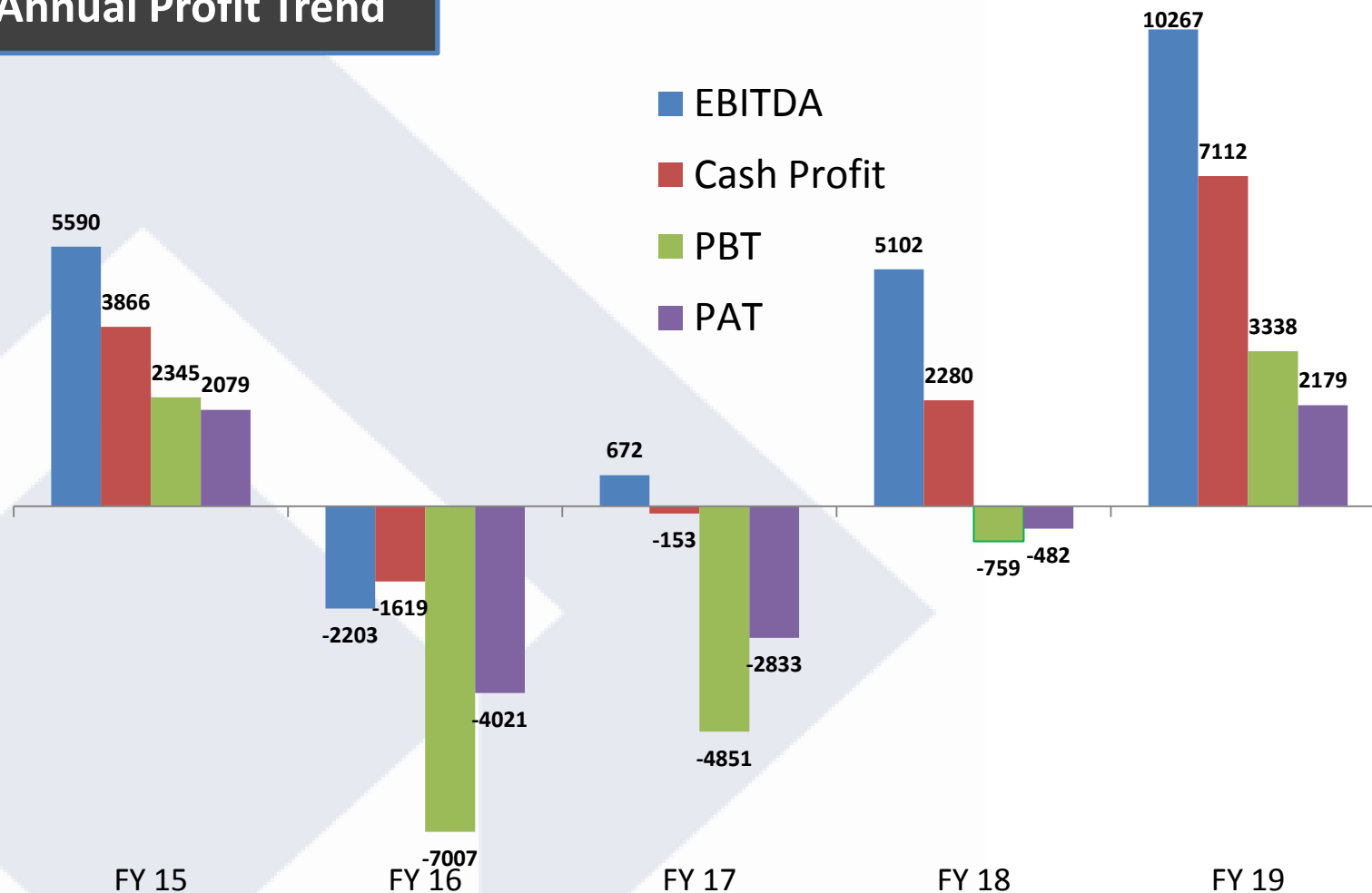


# FINANCIAL PERFORMANCE

<b>Rs. Crore (INDAS Compliant figures)</b>	<b>9M FY20</b>	<b>9M FY19</b>	<b>Q2 FY 20</b>	<b>Q3 FY 20</b>	<b>Q3 FY 19</b>
<b>Sales</b>	45000	47944	13951	16405	15660
<b>EBITDA</b>	4267	7806	1322	1184	2653
<b>Depreciation</b>	2700	2494	901	926	855
<b>Finance Cost</b>	2578	2352	940	849	825
<b>PBT Before Exceptional Items</b>	-1011	2960	-519	-591	973
<b>Exceptional/Abnormal Items (VRS/Suspended Operations)</b>	-	334	4	-	23
<b>PBT After Exceptional Items</b>	-1011	2626	-523	-591	950
<b>Tax</b>	-307	915	-180	-162	333
<b>Profit After Tax</b>	-703	1710	-343	-430	616

# FINANCIAL PERFORMANCE

## Annual Profit Trend

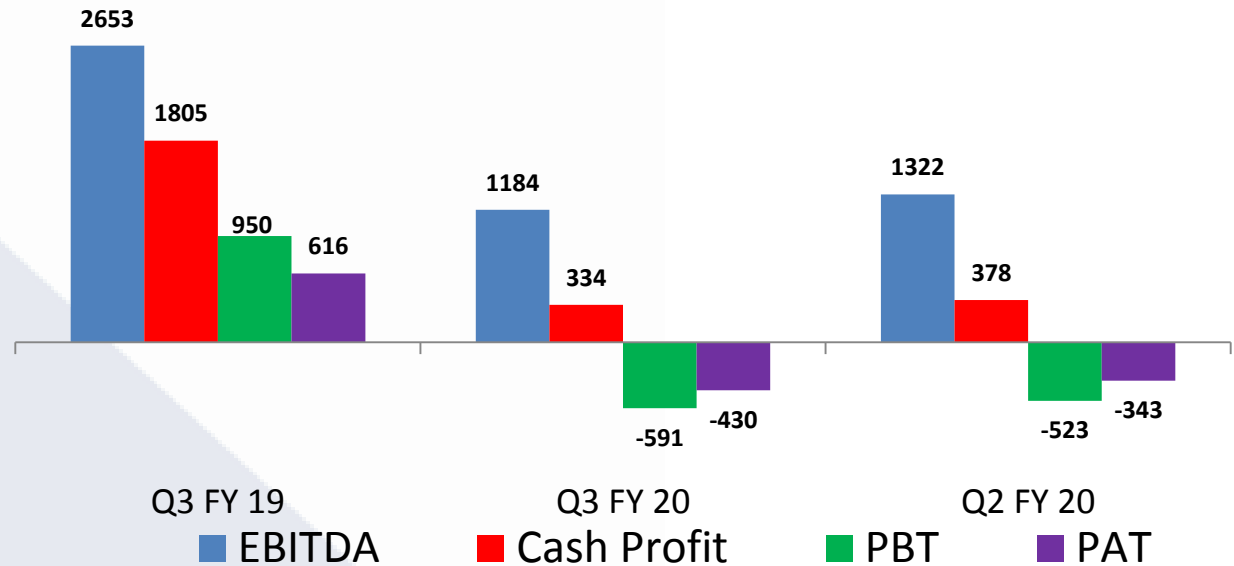


All figures in Rs crore

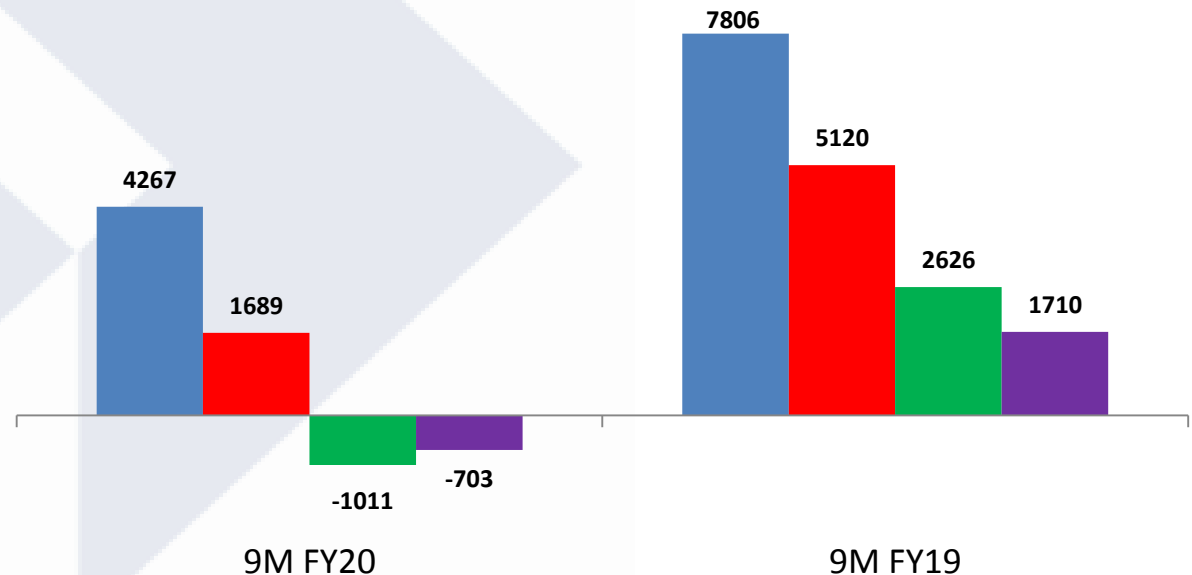
# FINANCIAL PERFORMANCE

## Quarterly Performance Q3 FY 19 vs Q3 FY 20 vs Q2 FY 20

All figures in Rs crore

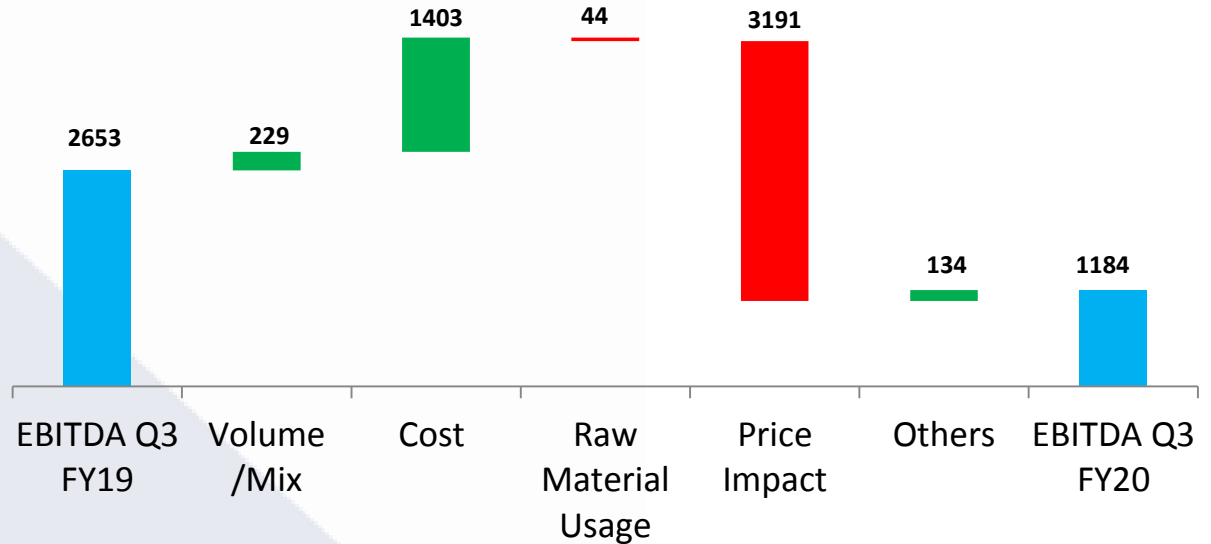


## Half-Yearly Performance 9M FY 20 vs 9M FY 19



# FINANCIAL PERFORMANCE

## EBITDA Movement Q3 FY 20 vs Q3 FY 19



*All figures in Rs crore*

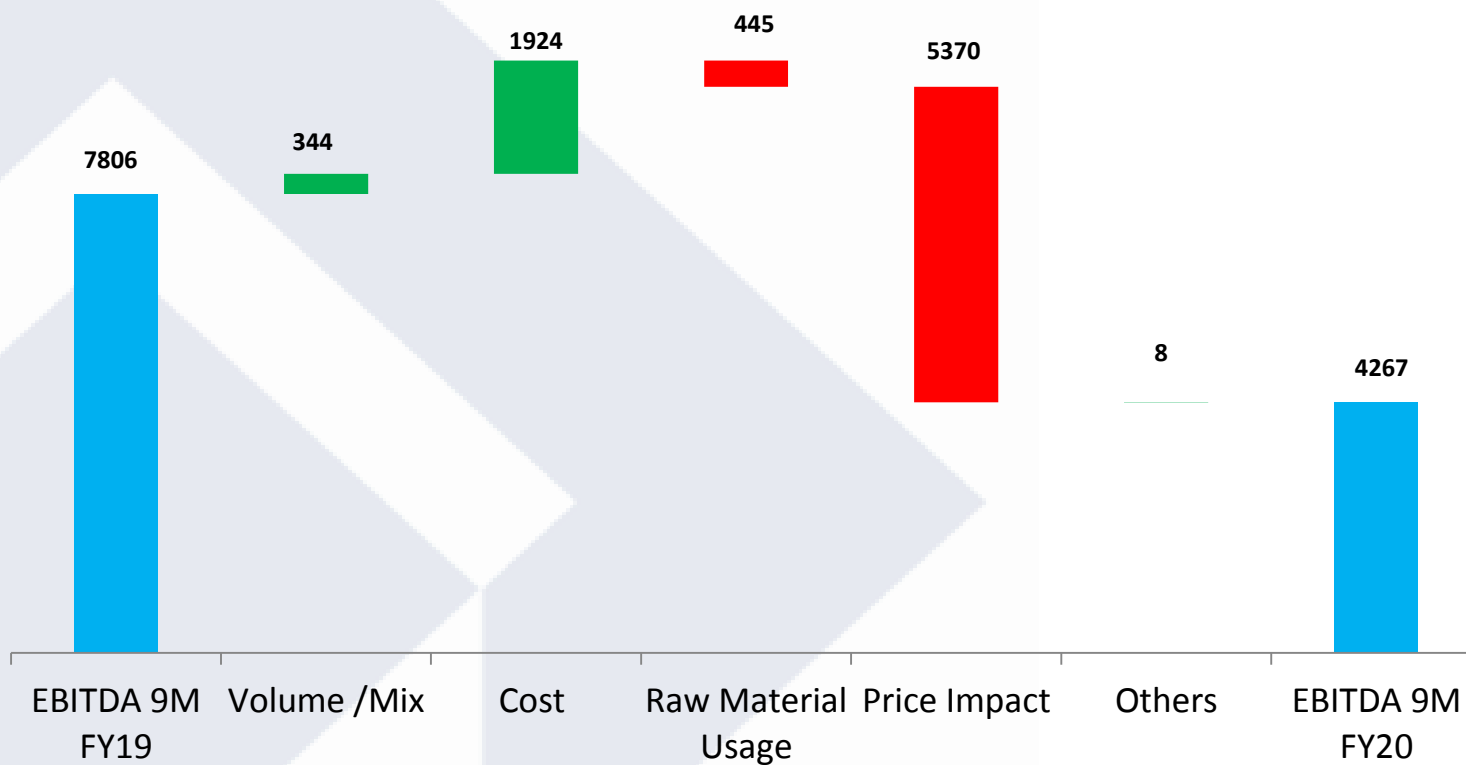
## EBITDA Movement Q3 FY 20 vs Q2 FY 20



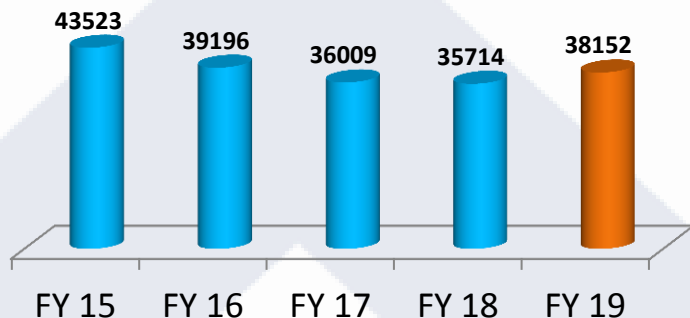
# FINANCIAL PERFORMANCE

## EBITDA Movement 9M FY 20 vs 9M FY 19

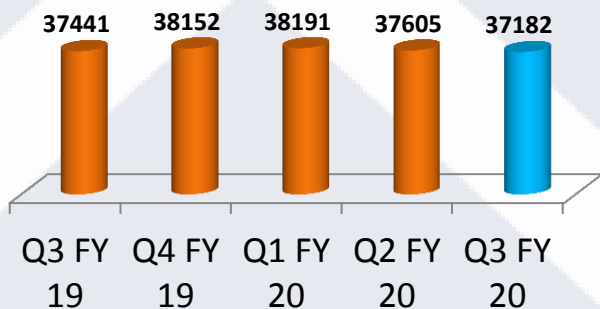
*All figures in Rs crore*



## Annual Net Worth

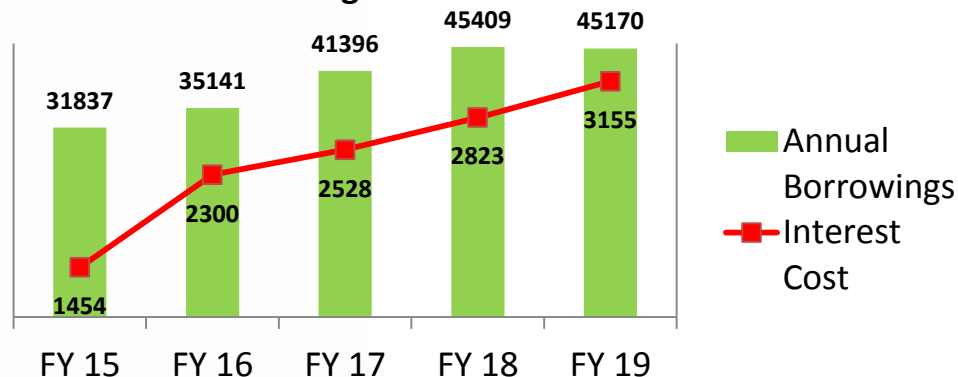


## Quarterly Net Worth

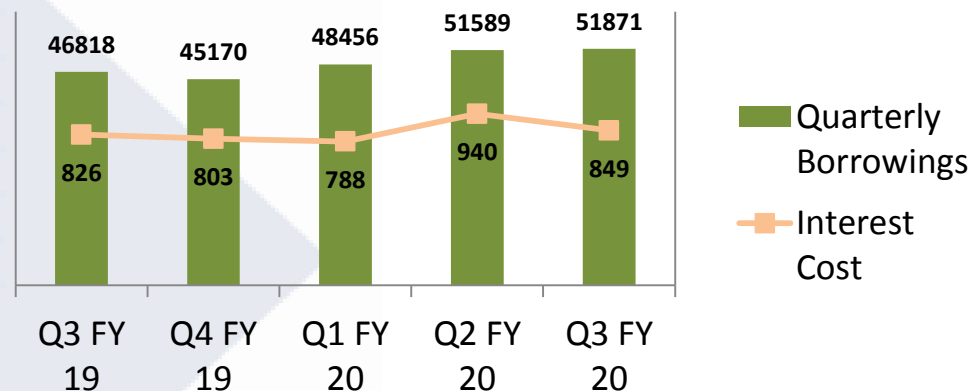


All figures in Rs. crore

## 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	31/12/19
0.69	0.90	1.15	1.27	1.18	1.40

# STEEL AUTHORITY OF INDIA LIMITED



## Capacity Building

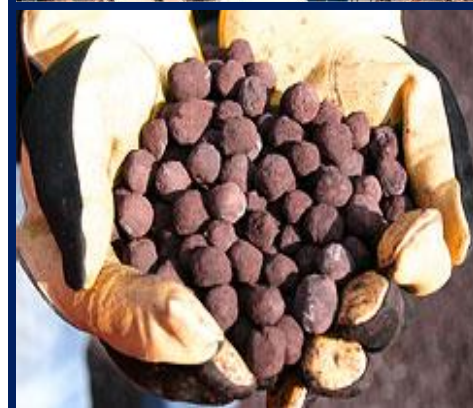


# SAIL's MODERNISATION & EXPANSION PLAN

Million Tonne	Actual Production 2018-19	Capacity After On-going Expansion
Crude Steel	16.264	21.4
Saleable Steel	15.069	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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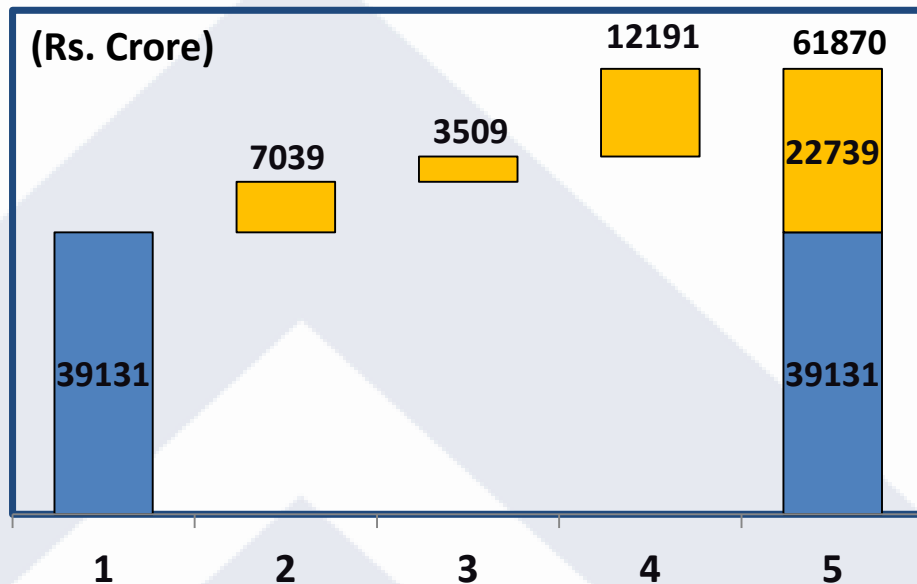
- Production through twin-hearth furnace (THF) route to be replaced by BOF-LD converter route.
- Production through Ingot – teeming route to be replaced with continuous cast production route.
- Enhancement of Production volume by addition of 2 new 4060 m<sup>3</sup> Blast Furnaces and one Blast Furnace 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)

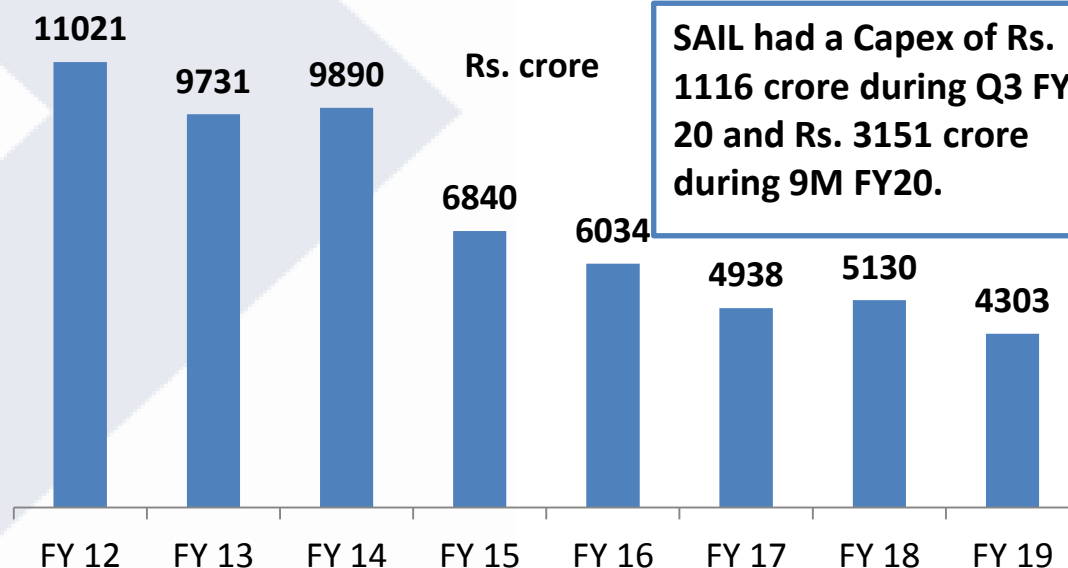


- 1 Expansion of existing capacity
- 2 Value-addition / Product-mix improvement
- 3 Technological up gradation / Modernization
- 4 Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

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

## TOTAL CAPEX (INCL. ON MODERNISATION & EXPANSION)

Capex Plan for FY19 was Rs.4000 Crore (including expenditure towards Capital Repairs and Spares needed to be capitalised under Ind AS).  
Capex Plan for FY20 is Rs.4000 Crore

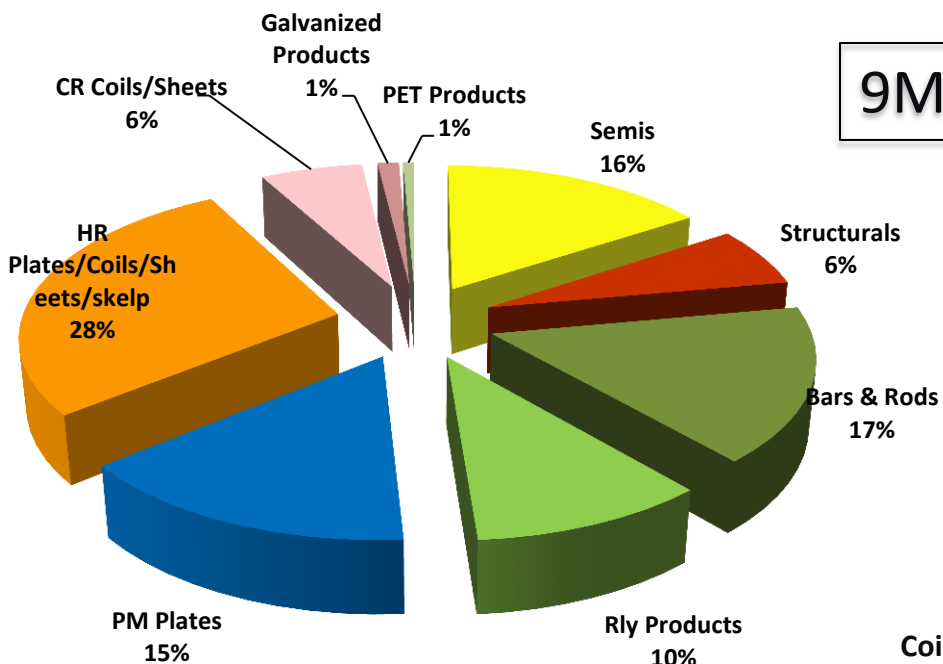


SAIL had a Capex of Rs. 1116 crore during Q3 FY 20 and Rs. 3151 crore during 9M FY20.

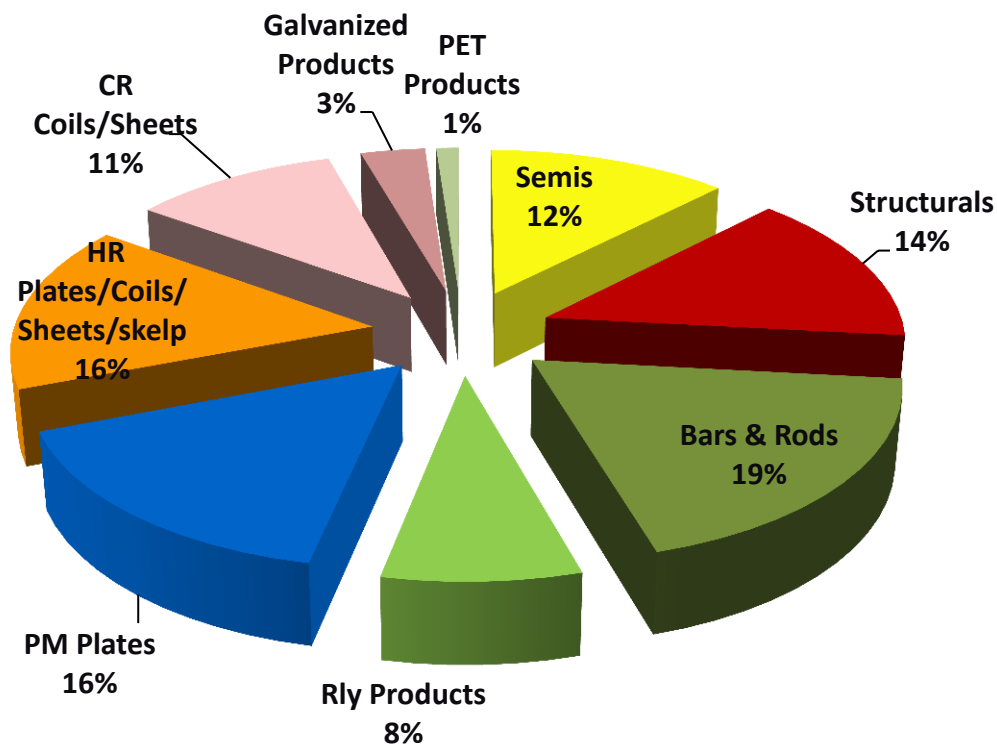
# CAPACITY AFTER EXPANSION

Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
	2018-19	After Expansion	2018-19	After Expansion	2018-19	After Expansion
<b>BSP</b>	4.75	7.5	4.45	7.0	3.67	6.6
<b>DSP</b>	2.51	2.5	2.22	2.2	2.12	2.1
<b>RSP</b>	3.84	4.5	3.66	4.2	3.33	4.0
<b>BSL</b>	4.21	5.8	3.83	4.6	3.63	4.2
<b>ISP</b>	2.20	2.9	1.89	2.5	1.91	2.4
<b>VISL</b>	0.00	0.3	0.00	0.2	0.01	0.2
<b>ASP</b>	-	-	0.10	0.5	0.12	0.4
<b>SSP</b>	-	-	0.12	0.2	0.28	0.3
<b>TOTAL</b>	<b>17.51</b>	<b>23.5</b>	<b>16.27</b>	<b>21.4</b>	<b>15.07</b>	<b>20.2</b>

9M FY 2019-20



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	2018-19 (Actual)	After Expansion
Crude Steel	0.12	0.18
Saleable Steel	0.28	0.34

# MODERNISATION & EXPANSION PLAN - IISCO STEEL PLANT

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## 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)

# MODERNISATION & EXPANSION PLAN - IISCO STEEL PLANT

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

## Production (MTPA) :

Item	2018-19 (Actual)	After Expansion
Crude Steel	1.89	2.50
Saleable Steel	1.91	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



# MODERNISATION & EXPANSION PLAN– BOKARO 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).

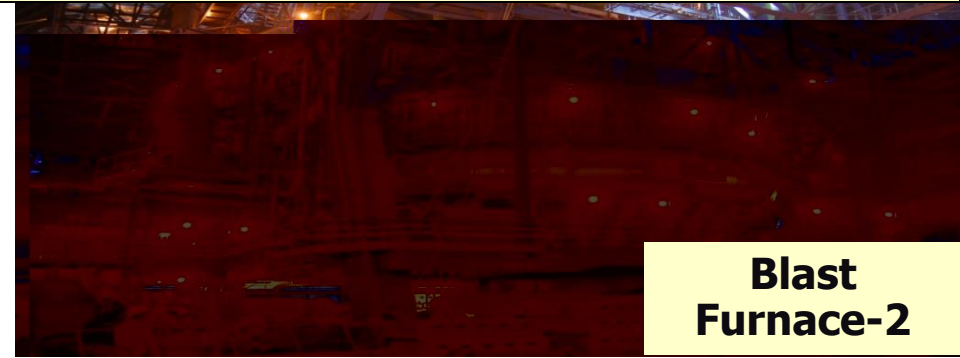
## Production (MTPA) :

Item	2018-19 (Actual)	After Expansion
Crude Steel	3.83	4.61
Saleable Steel	3.63	4.18

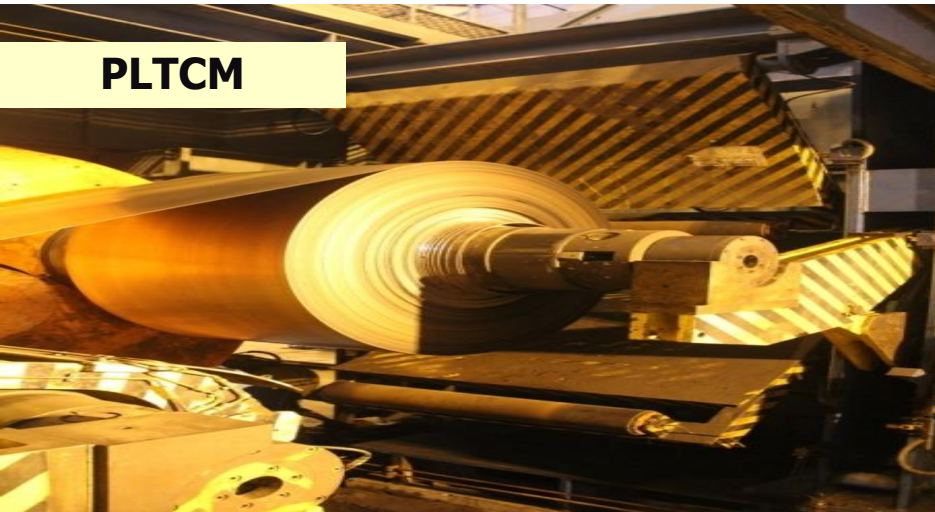
# Current Progress of Expansion at Bokaro Steel Plant



**Coke Oven  
battery-2**



**Blast  
Furnace-2**



**PLTCM**



**Coil Packaging Line**



**Skin Pass  
Mill**



**Bell Annealing Furnace**

# MODERNISATION & EXPANSION PLAN– BHILAI STEEL PLANT

## 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).

## Facilities Likely to be Completed During FY 19-20:

- Converter - 3, LF -3, Argon Rinsing Station-3 in SMS -3.

## Production (MTPA) :

Item	2018-19 (Actual)	After Expansion
Crude Steel	4.45	7.0
Saleable Steel	3.67	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**

# MODERNISATION & EXPANSION PLAN– ROURKELA STEEL PLANT

## 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	2018-19 (Actual)	After Expansion
Crude Steel	3.66	4.20
Saleable Steel	3.33	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



3<sup>rd</sup> BOF Converter



3<sup>rd</sup> Slab Caster

# MODERNISATION & EXPANSION PLAN– DURGAPUR STEEL PLANT

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## 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	2017-18 (Actual)	After Expansion
Crude Steel	2.04	2.20
Saleable Steel	1.95	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
2018-19	15.983	25.87	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, 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"> <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 7.5 mtpa and is under stabilization. At Gua, Stage II FC is awaited from MoEF required for expansion only Durgaiburu Lease.</li> </ul>
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"> <li>New Pellet Plants shall use the existing reserve of fines incl. dumps &amp; slimes at captive mines.</li> </ul>
Barsua, Kalta, Taldih	6.00	6.50	<ul style="list-style-type: none"> <li>Environment clearance obtained &amp; FC obtained on 23<sup>rd</sup> Oct. 2017 for ML-162 lease.</li> <li>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.</li> </ul>
Rowghat	New	12.00	All statutory clearances have been received. MDO has been engaged and LOA issued to MDO on 1 <sup>st</sup> 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
2018-19	17.513	16.515	<ul style="list-style-type: none"> <li>• Import Component – 91%</li> <li>• Over 70% of imported coal is sourced from Australia.</li> <li>• Indigenous: 9%</li> <li>• Domestic coal is largely sourced from Coal India Ltd.</li> <li>• SAIL has existing captive clean coking coal production of nearly 0.7 mtpa, During 2018-19, production was 0.27 mt.</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	 <p><b>RITES</b> THE INFRASTRUCTURE PEOPLE</p>	<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	 <p><b>TATA</b> <b>TATA STEEL</b></p>	<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			

# Disclaimer

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