

STEEL AUTHORITY OF INDIA LIMITED



RESULTS PRESENTATION FOR Q4 & FY 2018-19



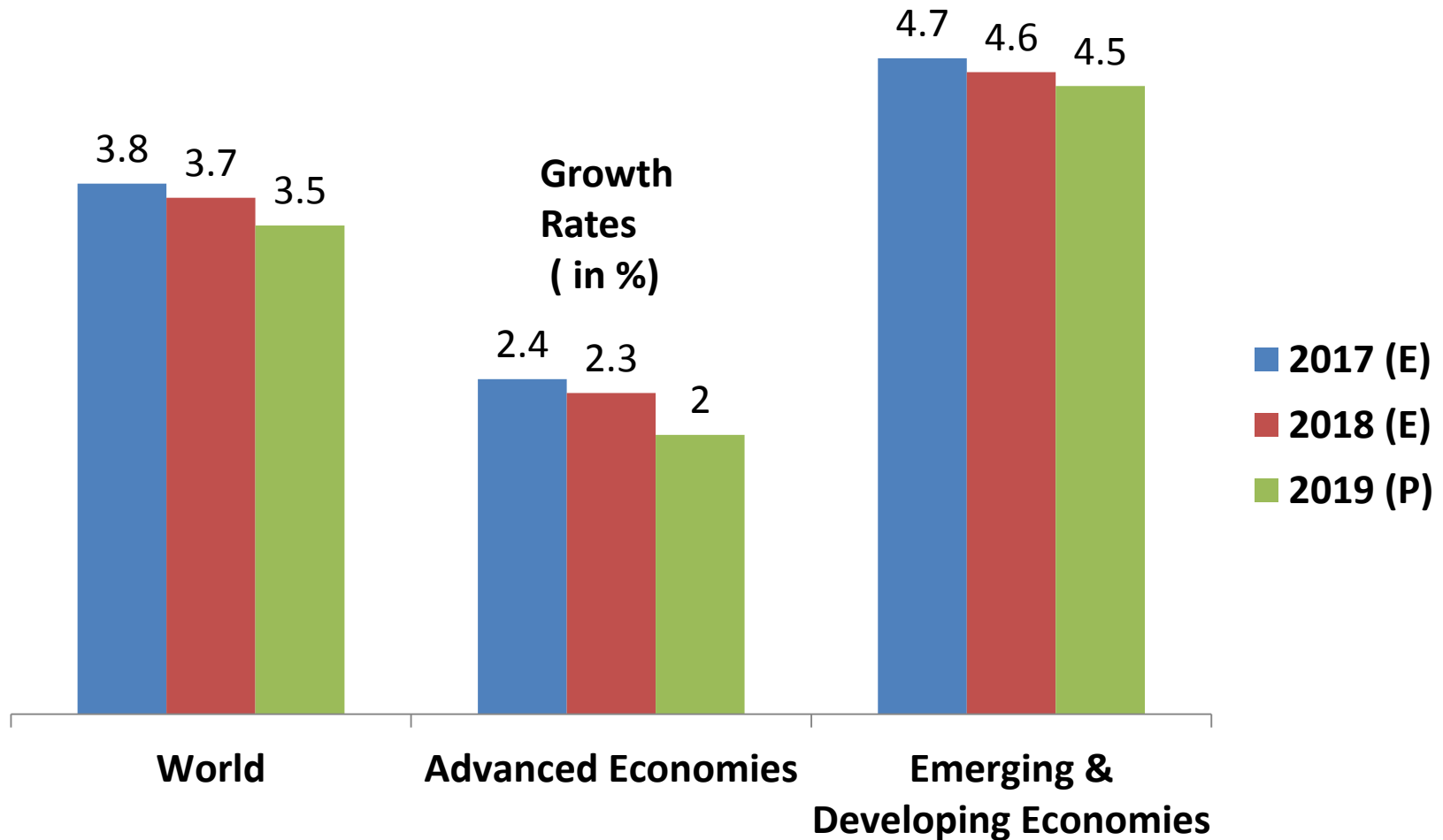
STEEL AUTHORITY OF INDIA LIMITED



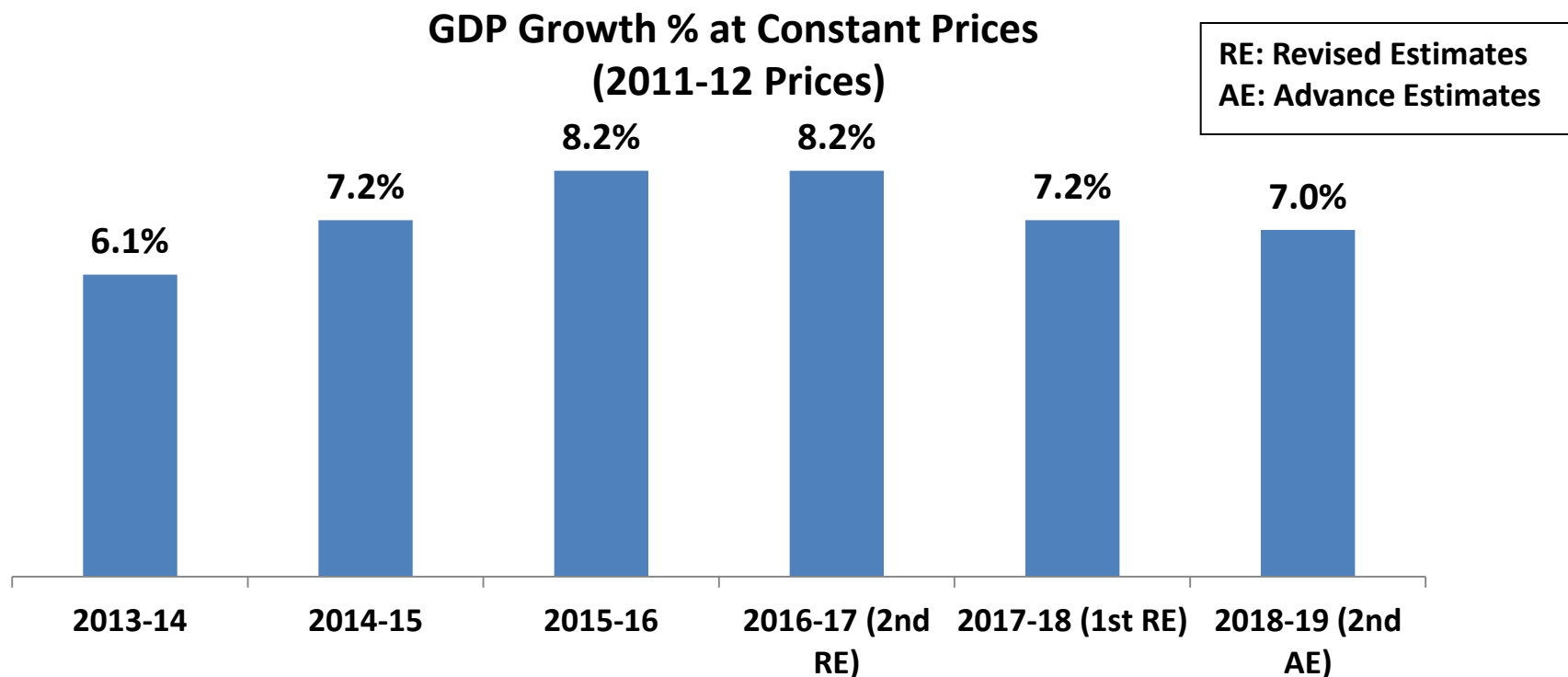
Economic & Steel Scenarios



WORLD ECONOMIC SCENARIO

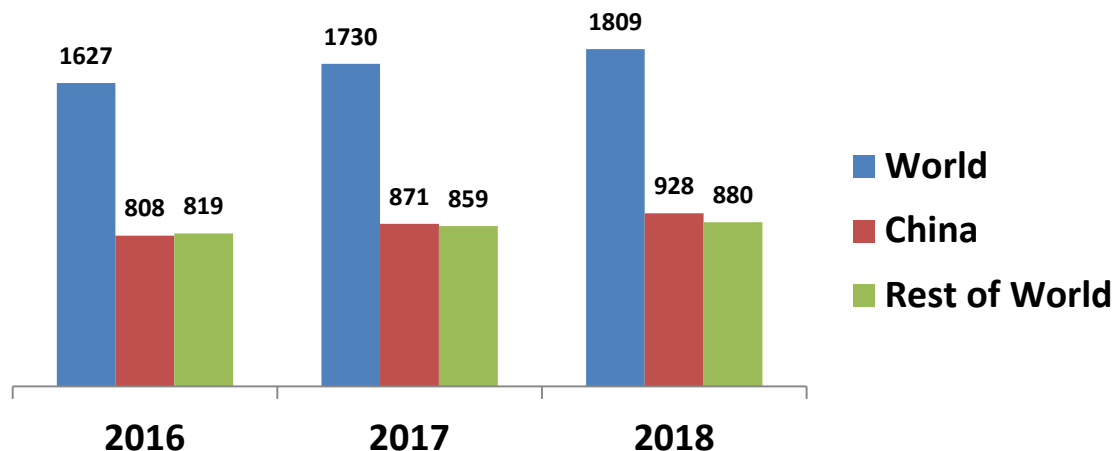


Global growth in 2019 & 2020 is projected at 3.5 and 3.6 percent



Source (Year)	Growth Projection
ADB (2019) – market prices	7.6 %
IMF (2019) – market prices	7.5 %

Crude Steel Production (mtpa)



(Crude Steel Production)

In 2018 : Asia : 1271 mtpa

- China : 928 mtpa

- India : 107 mtpa

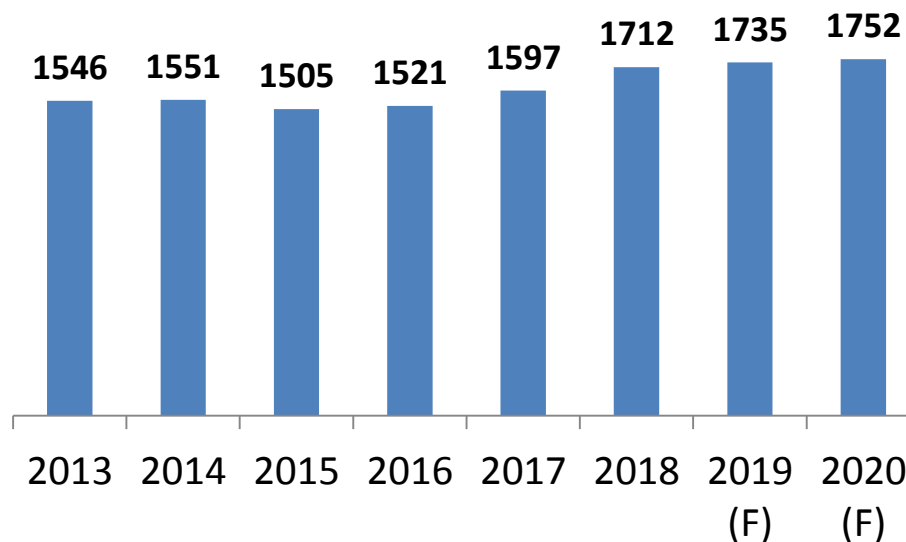
- Japan: 104 mtpa

USA : 87 mtpa

World Steel Association (WSA) forecast :

- Global steel demand will increase by 1.3% in 2019 and 1% in 2020
- Steel demand in China is expected to decelerate in 2020.
- In the Emerging and Developing Economies excluding China, steel demand is forecast to grow by 2.9% in 2019 and 4.6% in 2020.
- India set to grow fastest amongst major steel consumers at 7.1% and 7.2% in 2019 and 2020 respectively.

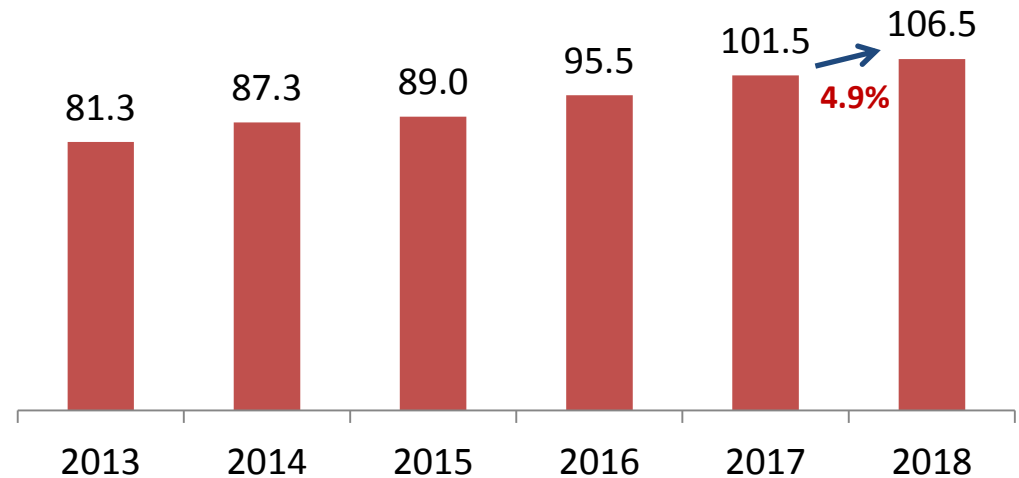
Finished Steel Consumption (mtpa)



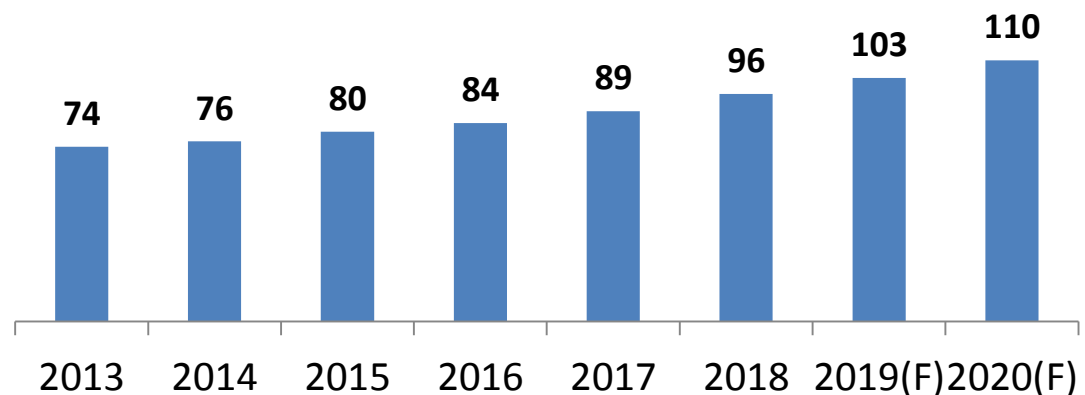
- India's Crude steel production (2018) :
106.5mtpa (growth of **4.9 %** over 2017)
- As per WSA, Short Range Outlook, demand in India is set to grow at 7.1% in 2019 and 7.2% in 2020.
- India to overtake USA as the second largest consumer of steel in 2019.

Source: WSA

Crude Steel Production (mtpa)



Finished Steel Consumption (mtpa)



INDIAN STEEL PERFORMANCE

INDICATORS	UNIT	18-19	17-18	% +/- Over CPLY
Real GDP Growth Rate #	%	6.6	7.2	-0.60
Growth in Index of Industrial Production ^	%	3.6	4.4	-0.80
Exchange Rate (Wt. Avg. of RBI Ref. Rate)	Rs/USD	69.89	64.45	-8.43
Production - Finished Steel *	MT	131.57	126.86	3.7
Imports - Finished Steel *	MT	7.83	7.48	4.7
Exports - Finished Steel *	MT	6.36	9.62	-33.9
Consumed for Downstream Processing*	MT	33.01	32.40	1.9
Consumption - Finished Steel *	MT	100.04	92.32	8.4
Less Variation in Stock *	MT	2.50	1.61	55.7
Real Consumption of Finished Steel *	MT	97.54	90.71	7.5

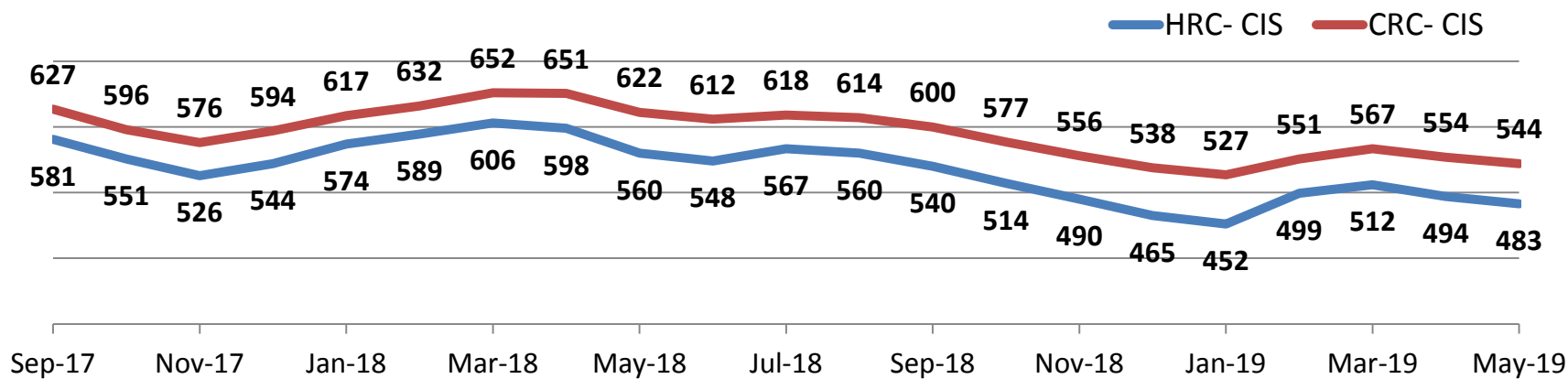
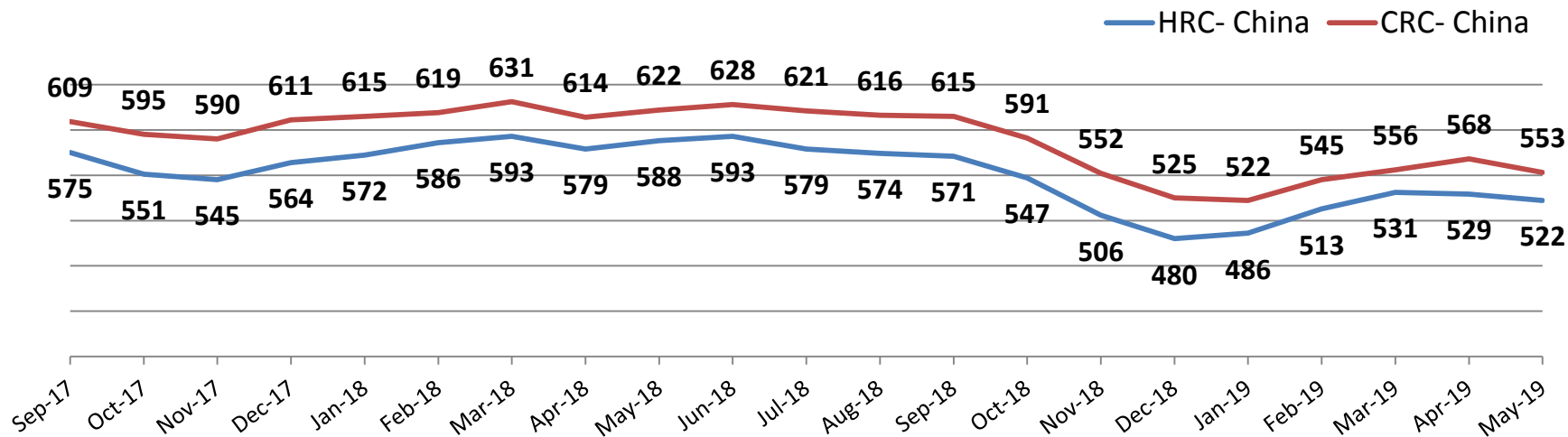
18-19 data is for Q3 18-19

^ As per CSO data

*Source JPC Report

INTERNATIONAL PRICE (FOB) TREND

USD/Tonne



STEEL AUTHORITY OF INDIA LIMITED



Performance Highlights



PERFORMANCE HIGHLIGHTS : FY2018-19

FINANCIAL PERFORMANCE

- ❖ Net Sales : Rs 66267 Crore
- ❖ EBITDA : Rs 10267 Crore
- ❖ PBT : Rs 3338 Crore
- ❖ PAT : Rs 2179 Crore

PRODUCTION & SALES PERFORMANCE

- ❖ Hot Metal Production : 17.513 MT
- ❖ Crude Steel Production : 16.264 MT
- ❖ Saleable Steel Production : 15.069 MT
- ❖ Semis component in production : 21.59 % of saleable steel
- ❖ Value Added Production : 6.897 MT
- ❖ Production through concast route : 13.804 MT
- ❖ Saleable Steel Sales : 14.115 MT

PERFORMANCE HIGHLIGHTS : Q4 FY2018-19



FINANCIAL PERFORMANCE

- ❖ Net Sales : Rs 18323 Crore
- ❖ EBITDA : Rs 2461 Crore
- ❖ PBT : Rs 712 Crore
- ❖ PAT : Rs 468 Crore

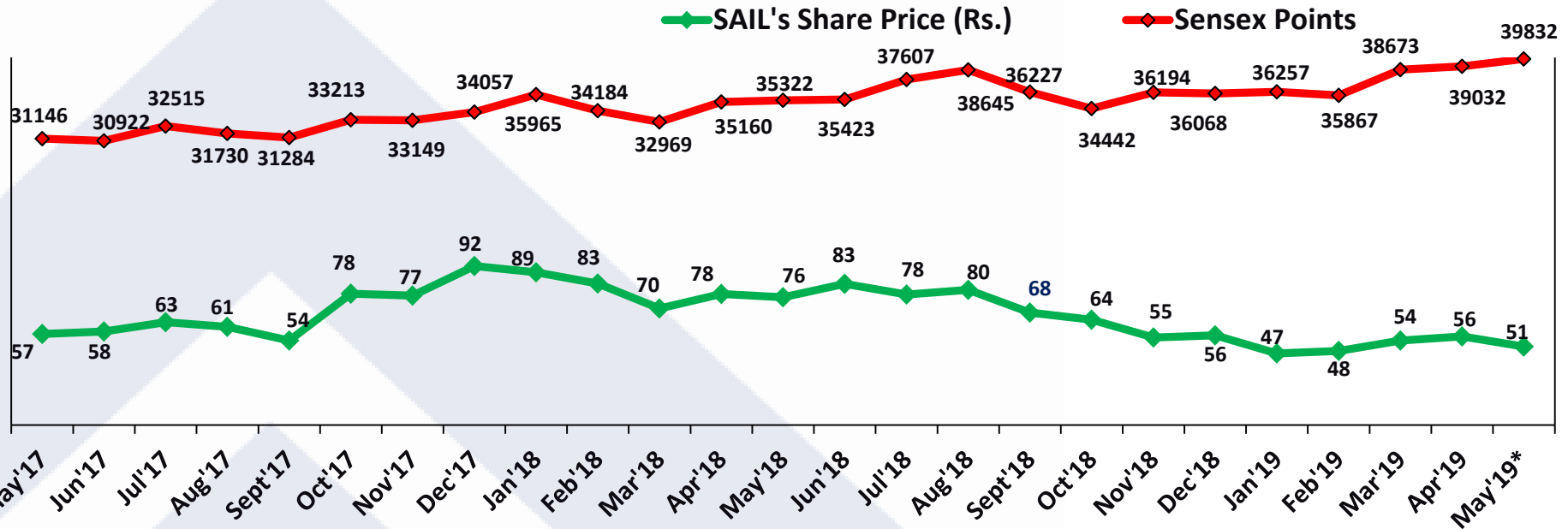
PRODUCTION & SALES PERFORMANCE

- ❖ Hot Metal Production : 4.671 MT
- ❖ Crude Steel Production : 4.338 MT
- ❖ Saleable Steel Production : 4.123 MT
- ❖ Semis component in production : 24.51% of saleable steel
- ❖ Value Added Production : 2.122 MT
- ❖ Production through concast route : 3.745 MT
- ❖ Saleable Steel Sales : 4.133 MT

SAIL STOCK PRICE MOVEMENT



सेल SAIL



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

* As on May 30, 2019

DIVIDEND PAYOUT

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

STEEL AUTHORITY OF INDIA LIMITED



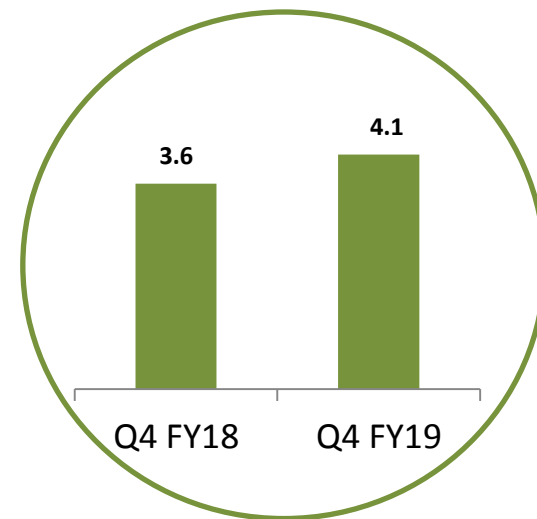
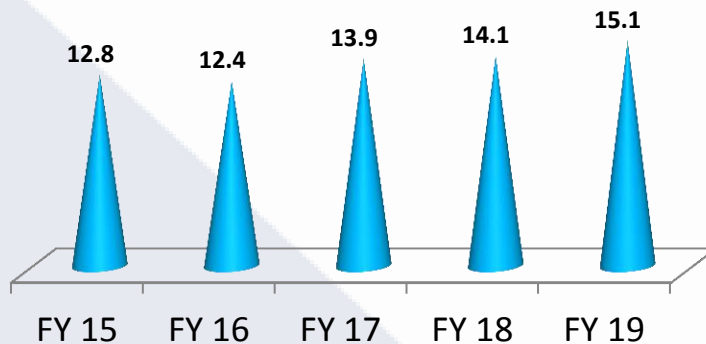
Operational Performance



PRODUCTION PERFORMANCE

All figures In Million Tonne

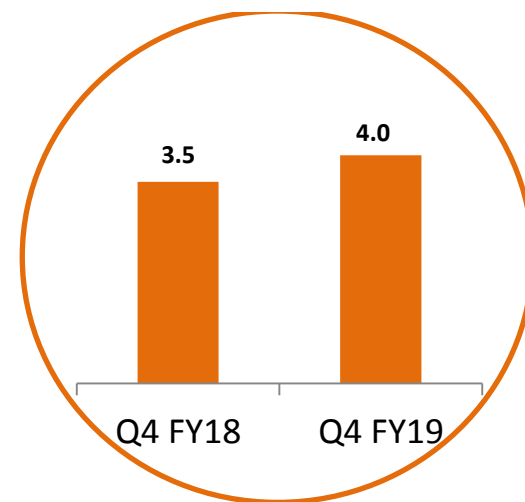
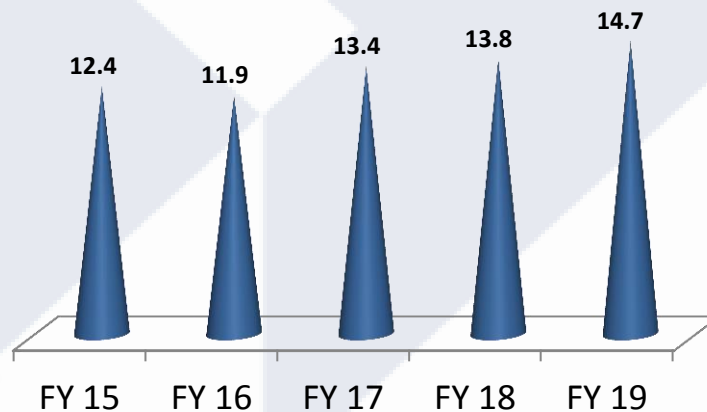
SALEABLE STEEL PRODUCTION (incl. SSPs)



Annual

Quarterly

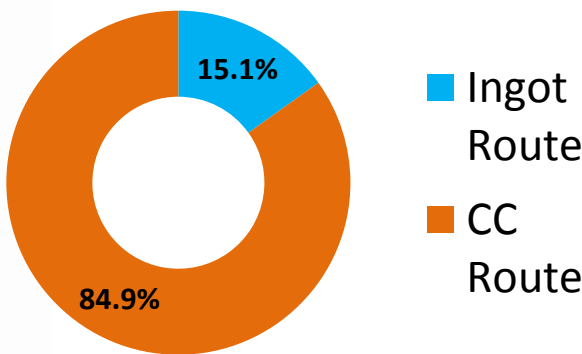
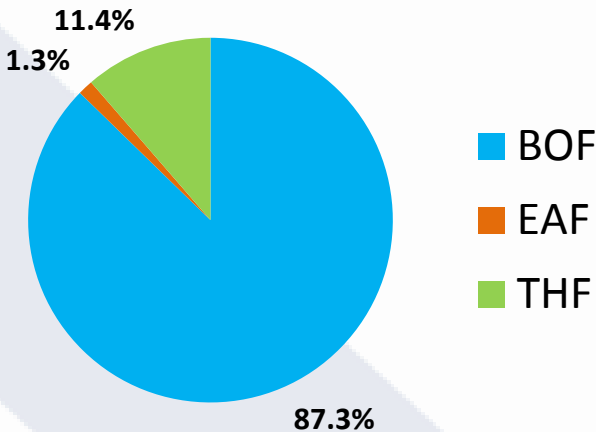
SALEABLE STEEL PRODUCTION (5 ISPs)



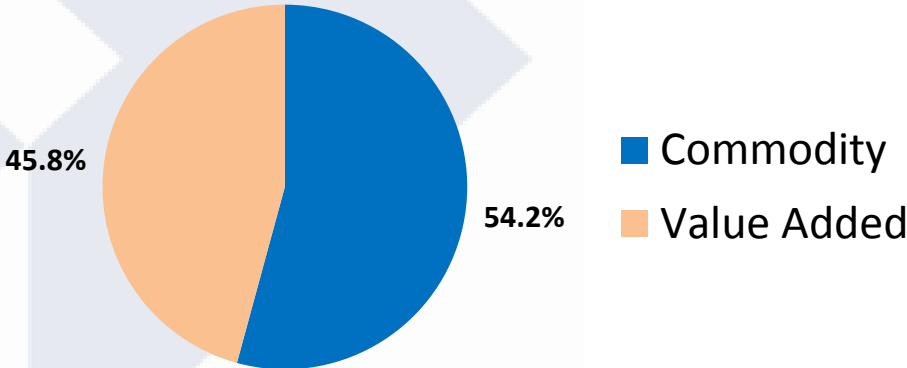
PRODUCTION PERFORMANCE : FY19



CRUDE STEEL PRODUCTION BY PROCESS

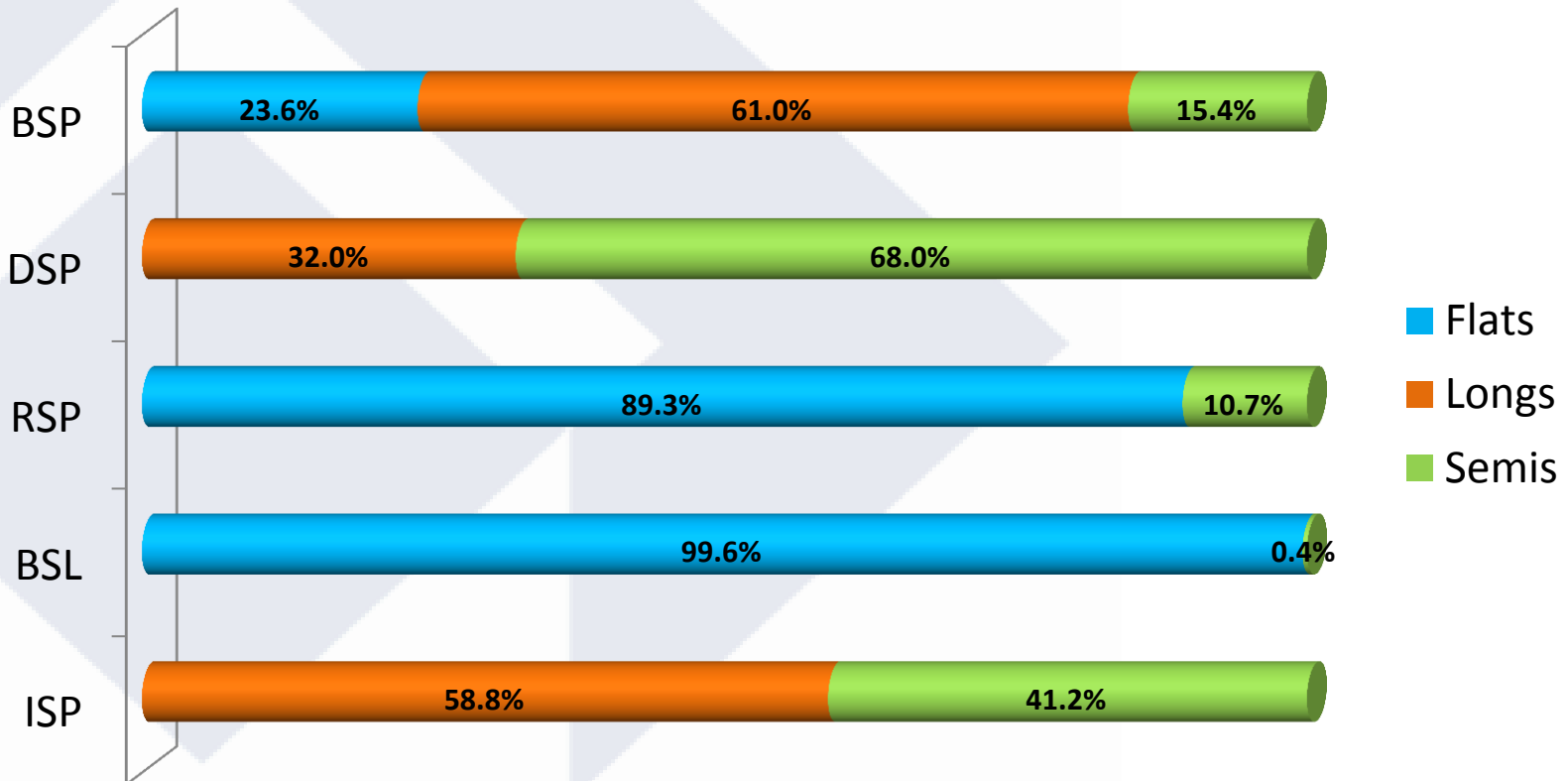
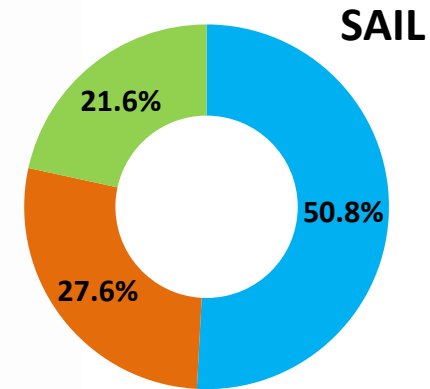


SALEABLE STEEL PRODUCTION BY PROCESS



PRODUCTION PERFORMANCE : FY 19

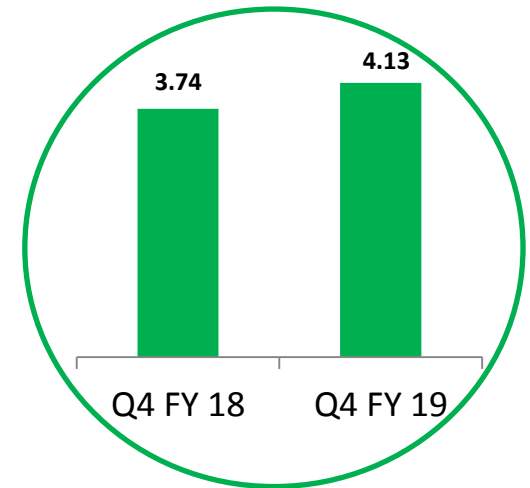
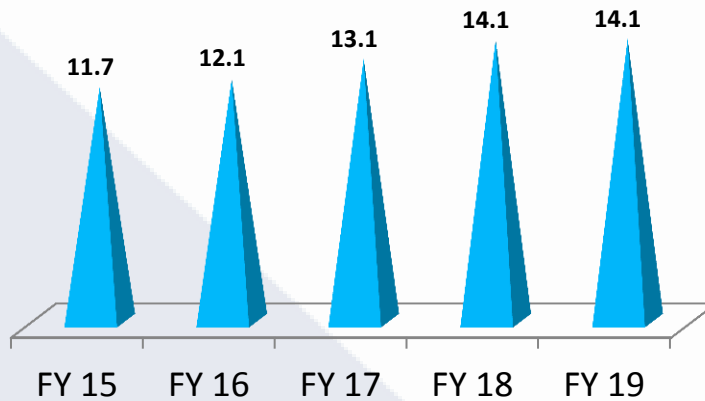
PRODUCT MIX : 5 ISPs



SALES PERFORMANCE

All figures In Million Tonne

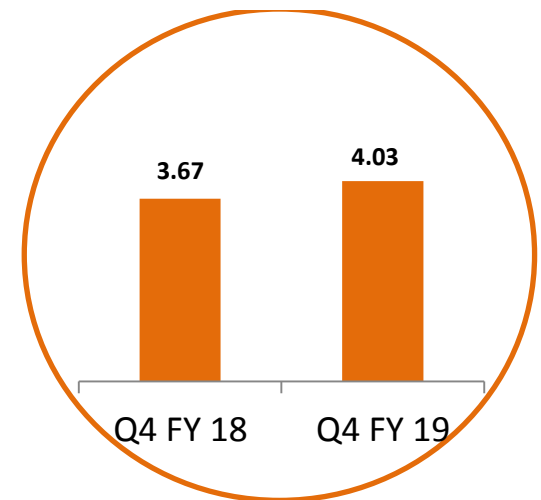
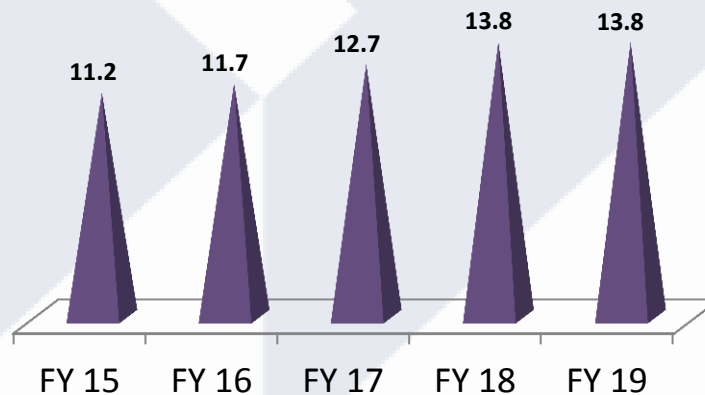
TOTAL SALES (incl. SSPs)



Annual

Quarterly

SALES OF 5 ISPs



STEEL AUTHORITY OF INDIA LIMITED



**Efficiency &
Sustenance
Performance**

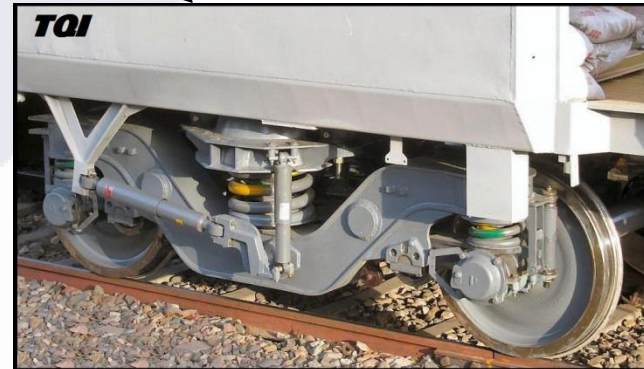


NEW PRODUCTS DEVELOPED DURING FY19

NARROW PARALLEL
FLANGE BEAM 750:
USAGE IN
CONSTRUCTION
INDUSTRY



LINKE HOFMANN
BUSCH (LHB) WHEELS:
USAGE FOR RAILWAYS



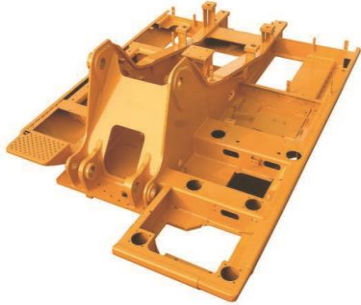
PRODUCT CUSTOMISATION FOR END USERS

HYVA TIPLERS



HSMP AND PMP
GRADE: IS
2062E450, E600

Main Frame



Track Frame



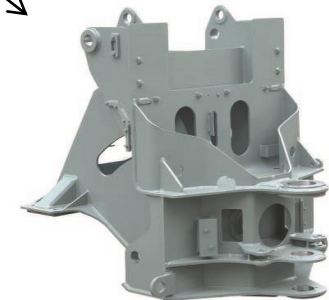
Boom



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

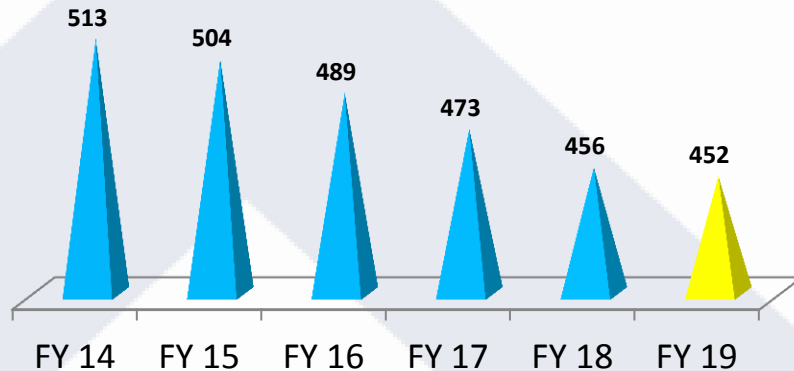


Dummy Axle Beam



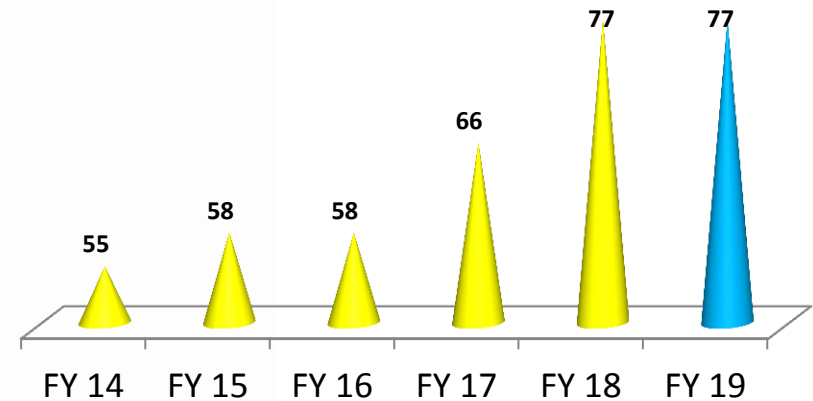
TECHNO-ECONOMIC PARAMETERS

Coke Rate: kg/thm



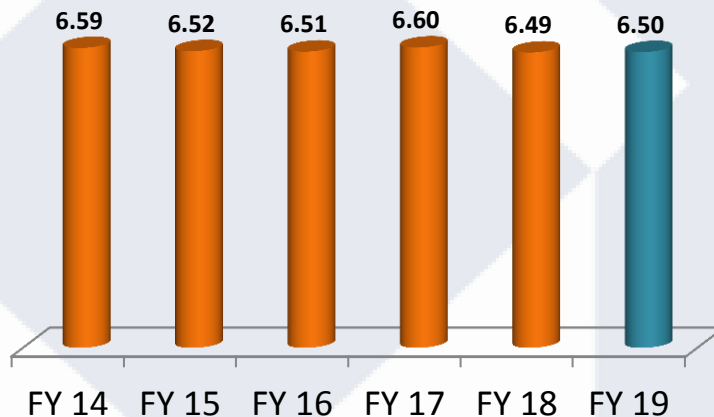
Reduction of 11.9% over FY14

CDI Rate(for CDI Furnace only): kg/thm



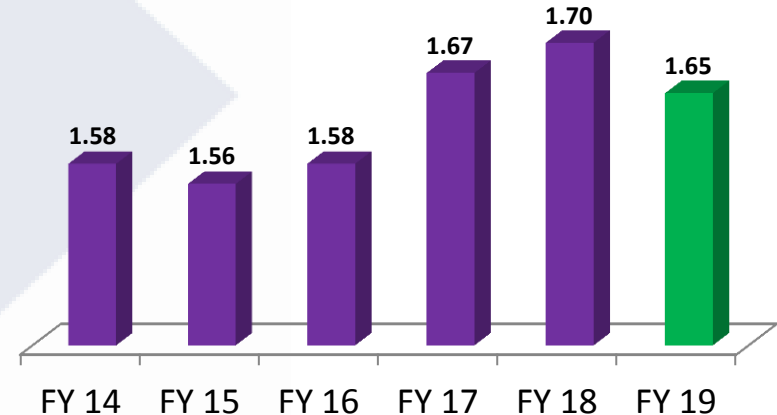
Increase of 40% over FY14

Specific Energy Consumption: GCal/tcs



Reduction of 1.3% over FY14

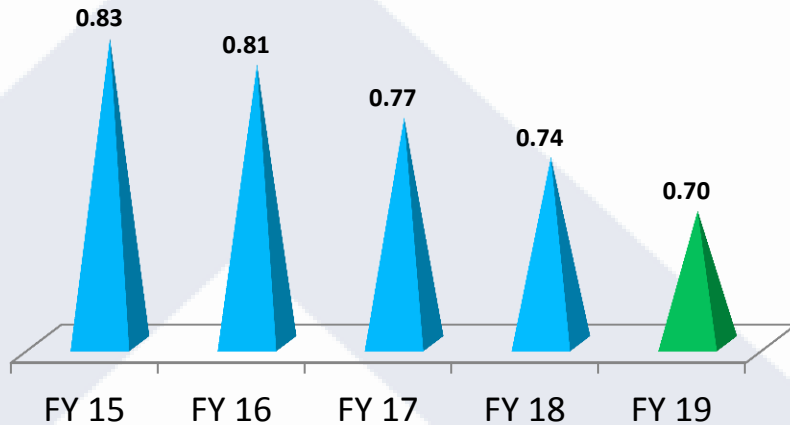
BF Productivity: T/m³/Day



Improvement of 4.4% over FY14

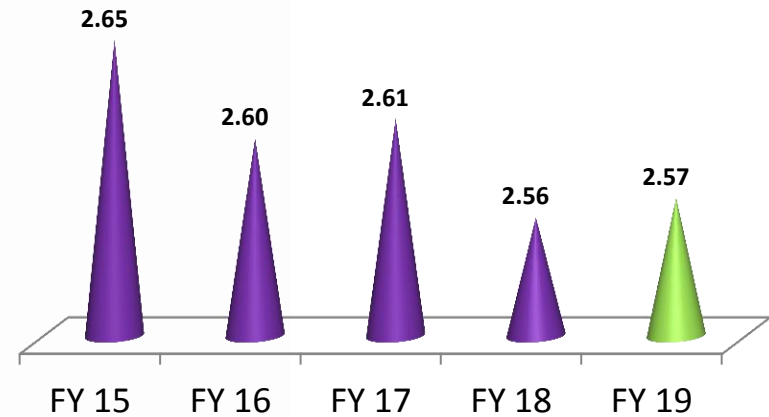
SUSTAINANCE PARAMETERS

PM Emission Load: kg/tcs



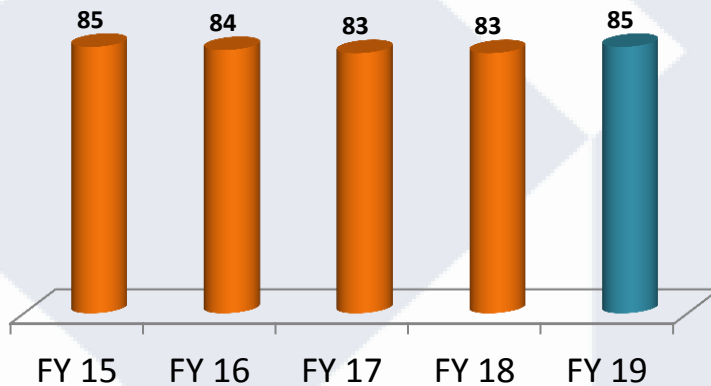
Reduction of 16% over FY15

Specific CO2 Emission: m3/tcs



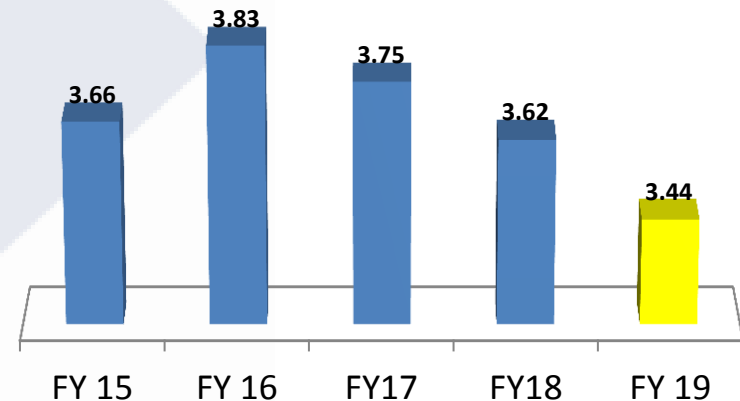
Reduction of 3% over FY15

Solid Waste Utilisation (%)



Consistent Utilisation of Solid Waste

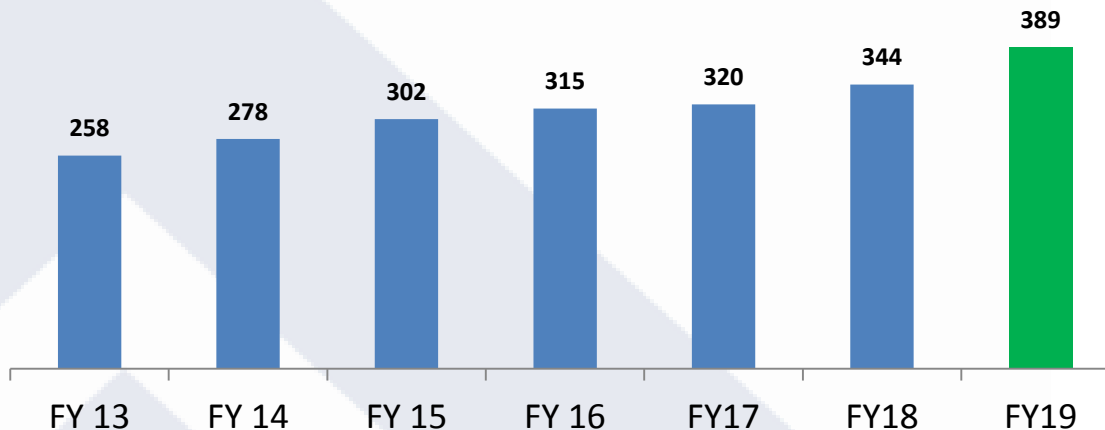
Specific Water Consumption: m3/tcs



Reduction of 6% over FY15

MANPOWER PERFORMANCE

LABOUR PRODUCTIVITY TREND (tcs/man/year)



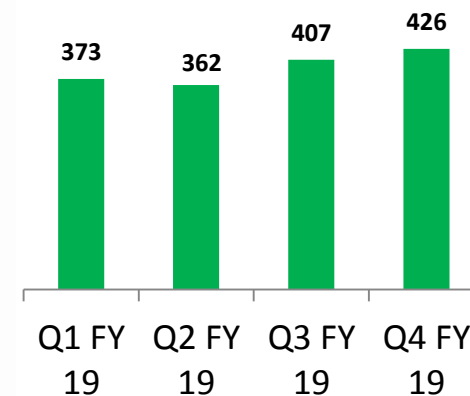
Improvement
of 50% over
FY13

MANPOWER

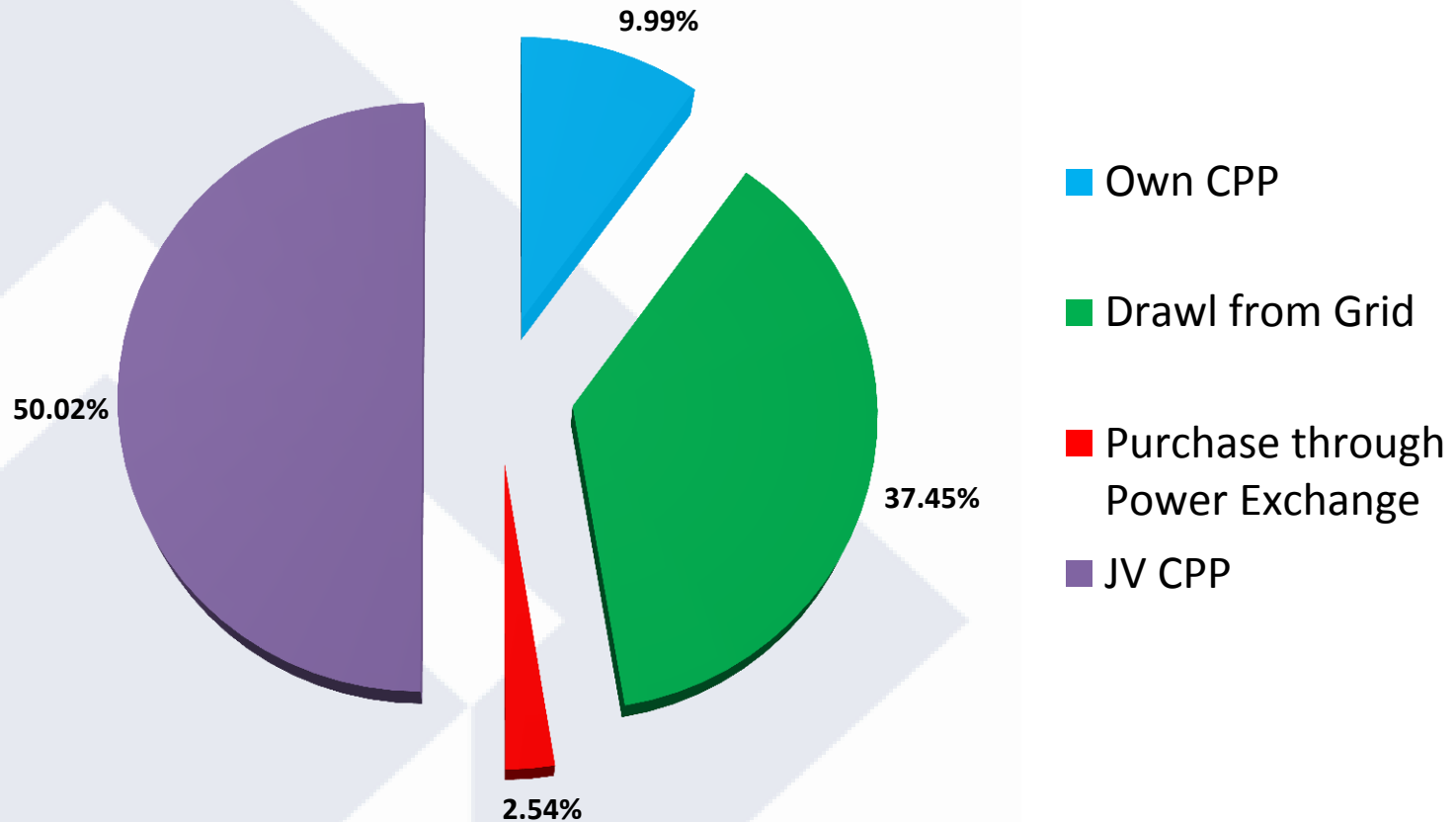
Total manpower as on 01.04.2019: **72339**

Reduction in 2018-19: **4531**

LABOUR PRODUCTIVITY DURING 2018-19 (tcs/man/year)



POWER CONSUMPTION – FY 19



STEEL AUTHORITY OF INDIA LIMITED



Financial Performance

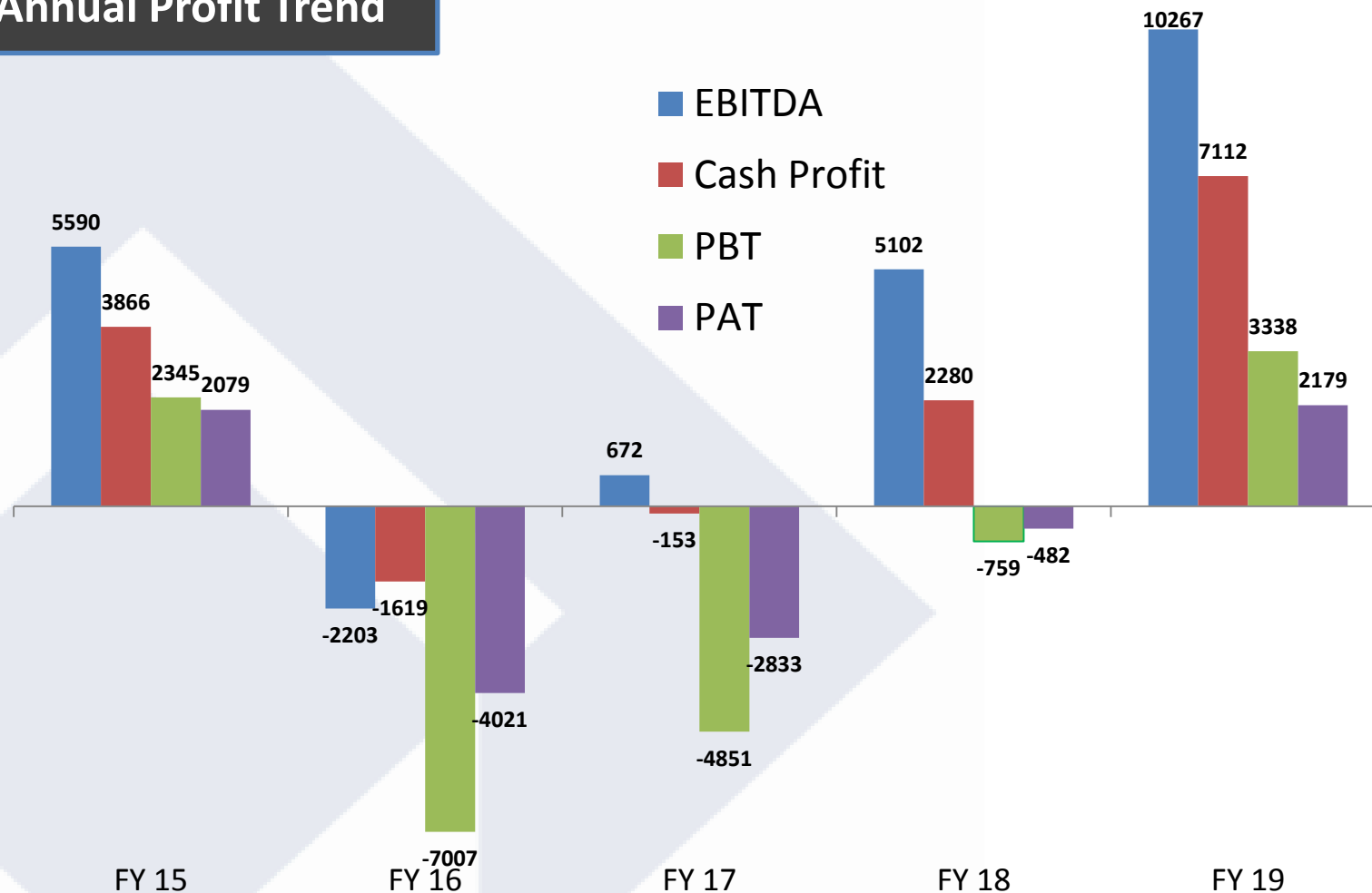


FINANCIAL PERFORMANCE

Rs. Crore (INDAS Compliant figures)	FY19	FY18	Q4 FY 19	Q3 FY 19	Q4 FY 18
Sales	66267	58297	18323	15660	16811
EBITDA	10267	5102	2469	2653	2574
Depreciation	3385	3065	890	855	848
Finance Cost	3155	2823	803	825	917
PBT Before Exceptional Items	3727	-785	766	973	809
Exceptional/Abnormal Items (VRS/Suspended Operations)	389	-26	55	23	-377
PBT After Exceptional Items	3338	-759	712	950	1186
Tax	1159	-277	244	333	370
Profit After Tax	2179	-482	468	616	816

FINANCIAL PERFORMANCE

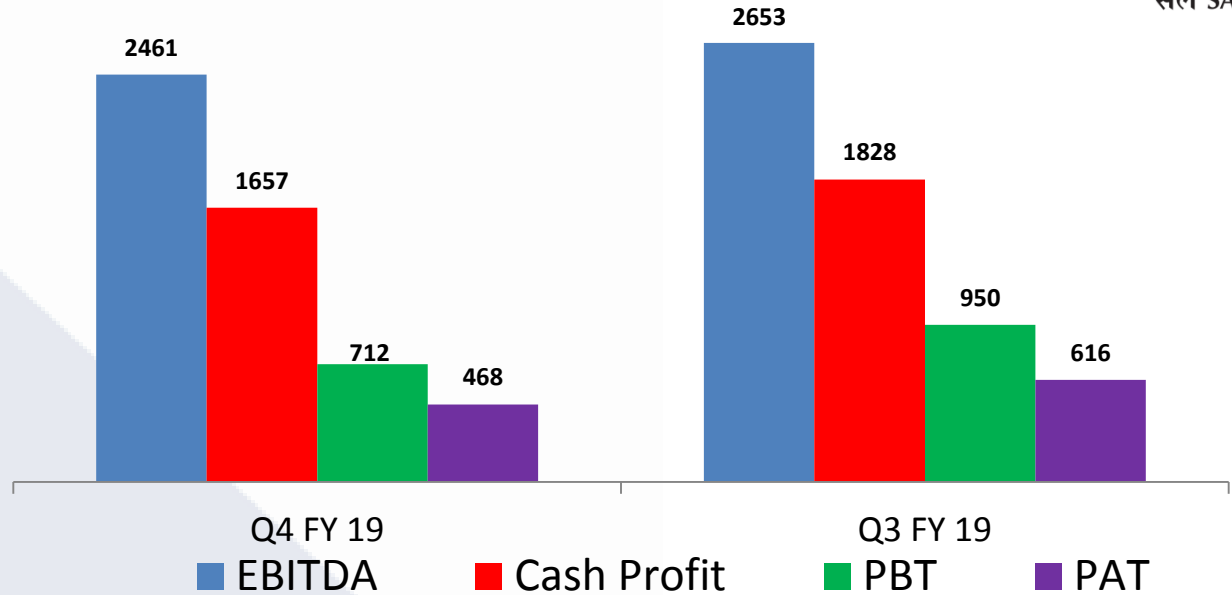
Annual Profit Trend



All figures in Rs crore

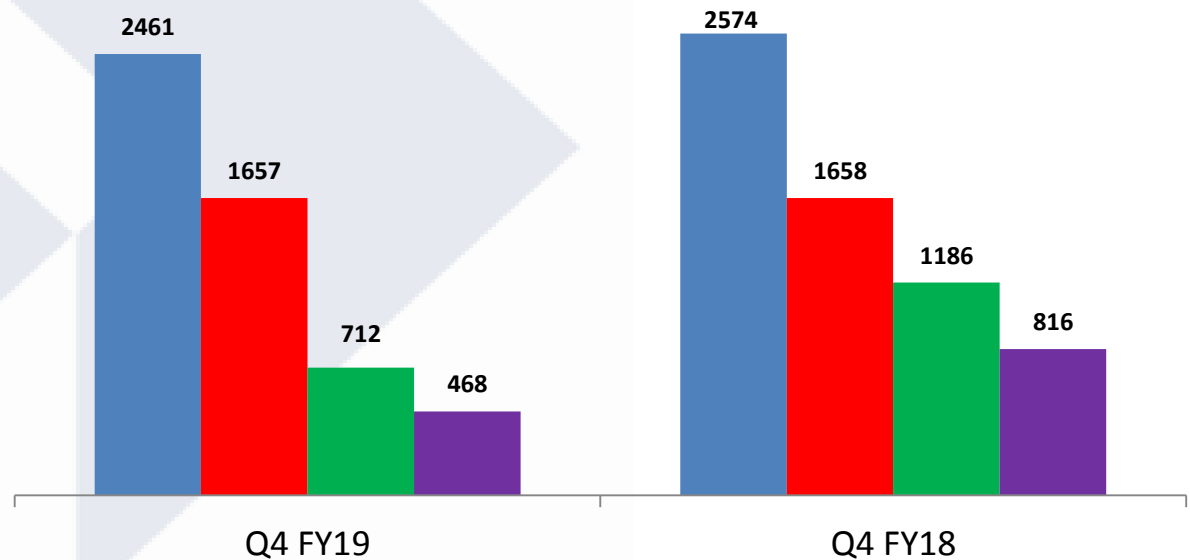
FINANCIAL PERFORMANCE

Quarterly Performance Q4 FY 19 vs Q3 FY 19



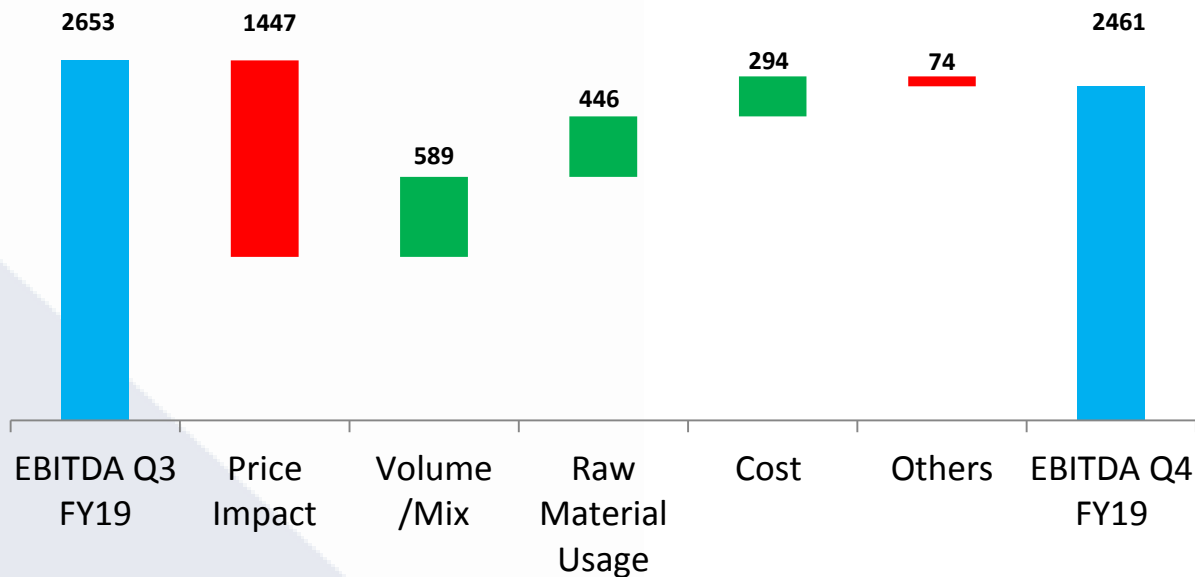
All figures in Rs crore

Quarterly Performance Q4 FY 19 vs Q4 FY 18



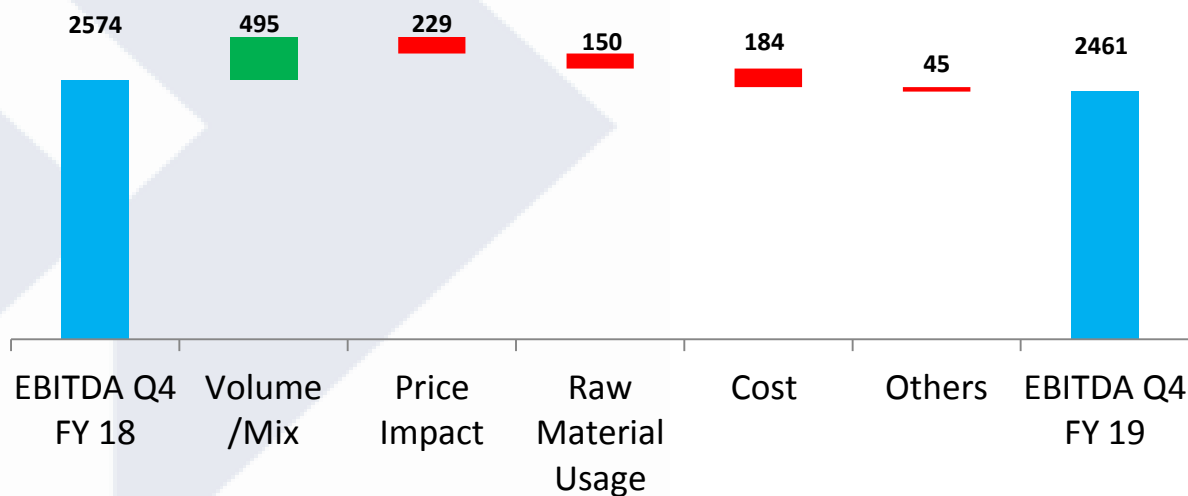
FINANCIAL PERFORMANCE

EBITDA Movement Q4 FY 19 vs Q3 FY 19

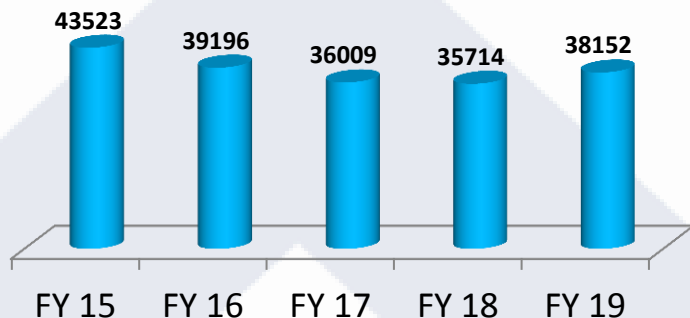


All figures in Rs crore

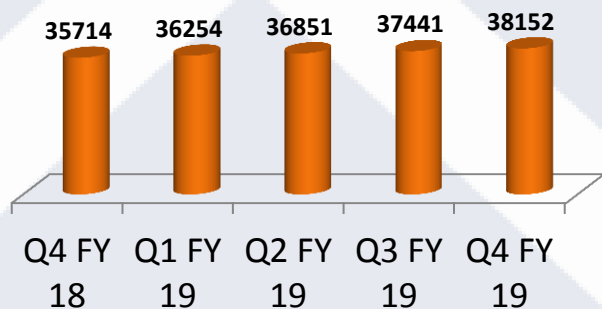
EBITDA Movement Q4 FY 19 vs Q4 FY 18



Annual Net Worth

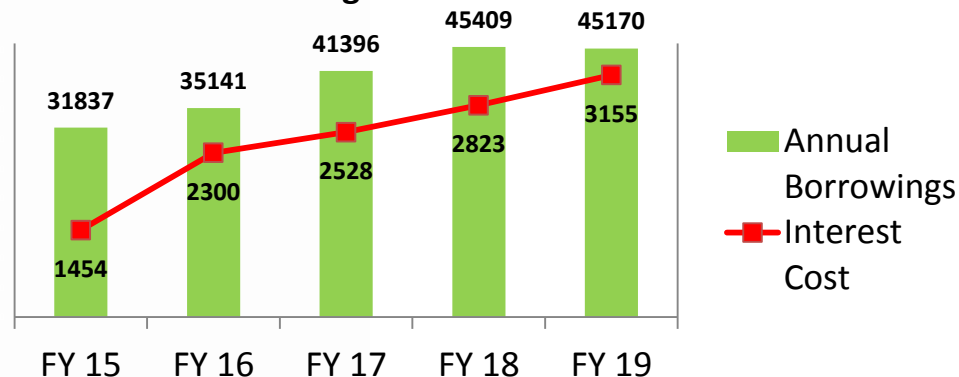


Quarterly Net Worth

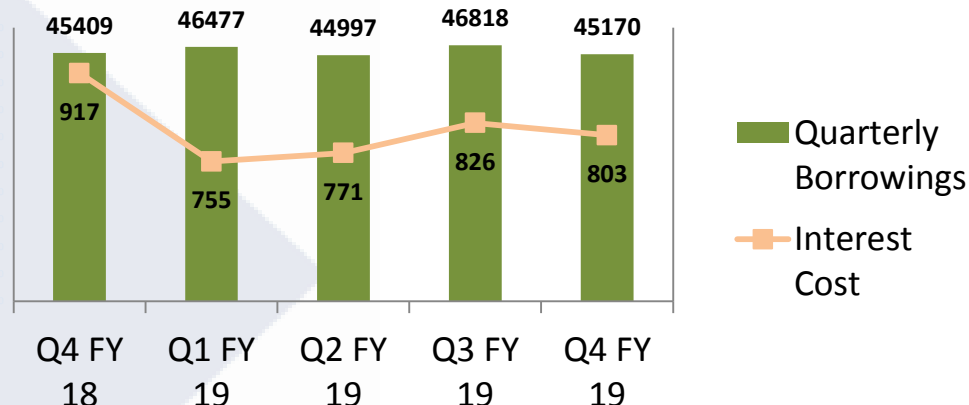


All figures in Rs. crore

Annual Borrowings & Interest cost



Quarterly Borrowings & Interest cost



Debt Equity Ratio

31/03/15	31/03/16	31/03/17	31/03/18	31/03/2019
0.69	0.90	1.15	1.27	1.18

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

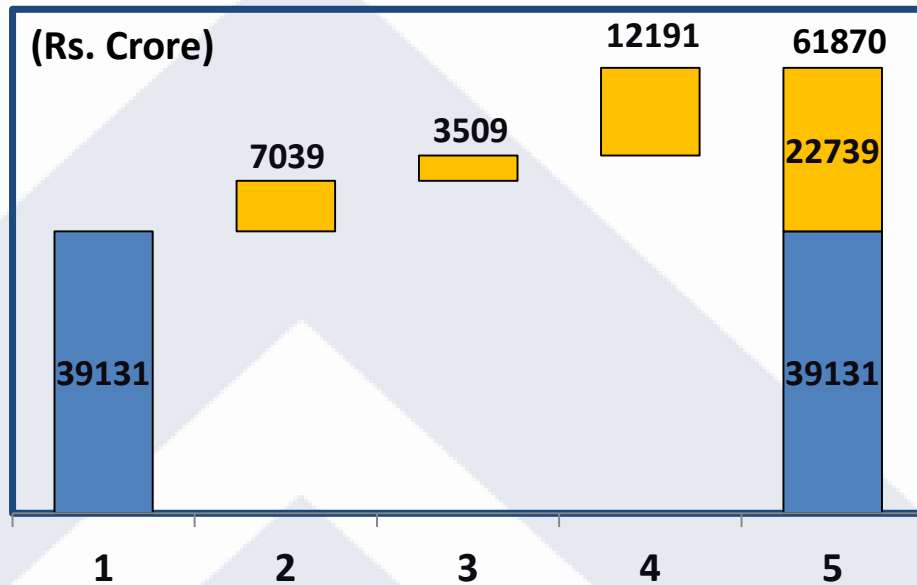
EXPECTED OUTCOME

- 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)

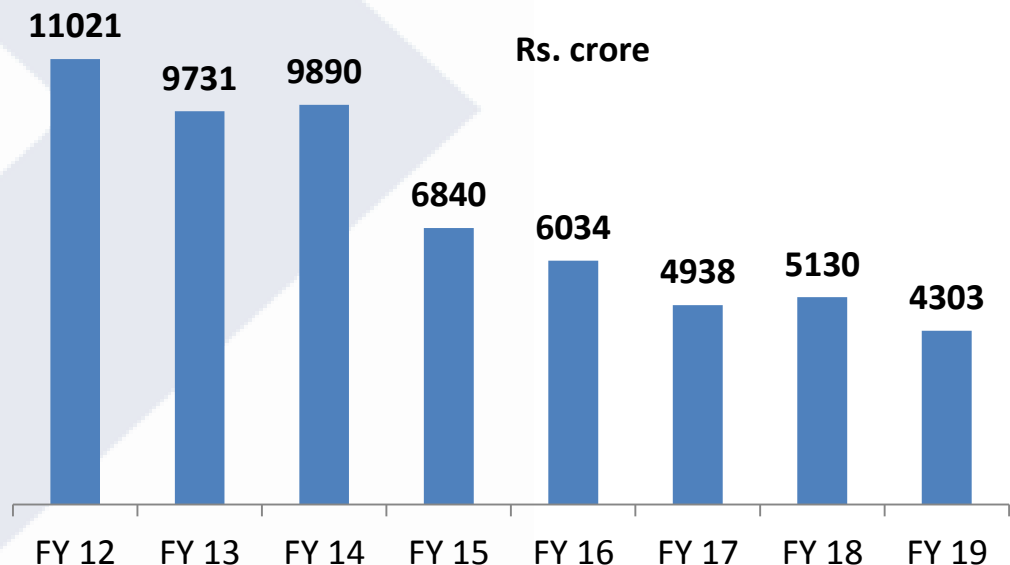


- 1 Expansion of existing capacity
- 2 Value-addition / Product-mix improvement
- 3 Technological up gradation / Modernization
- 4 Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

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 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

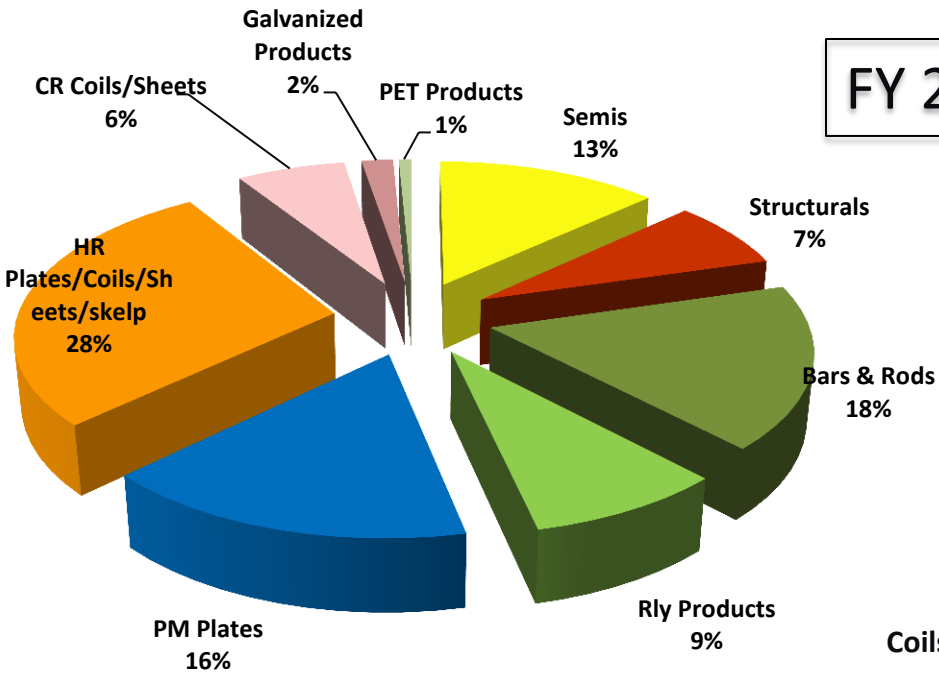


CAPACITY AFTER EXPANSION

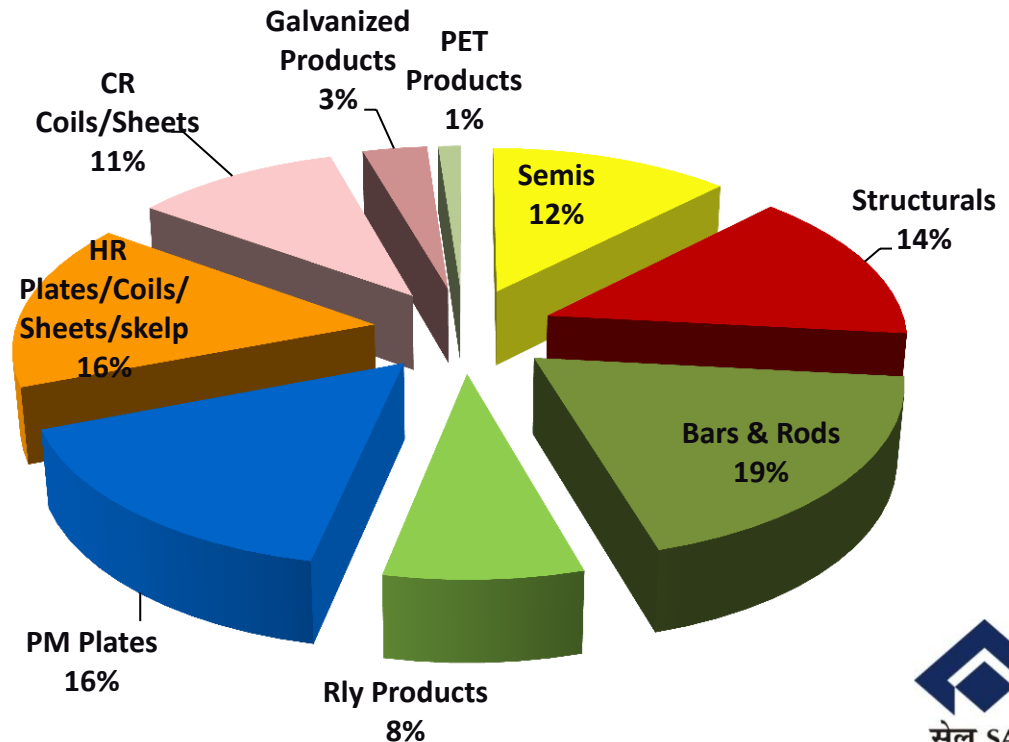
Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
	2018-19	After Expansion	2018-19	After Expansion	2018-19	After Expansion
BSP	4.75	7.5	4.45	7.0	3.67	6.6
DSP	2.51	2.5	2.22	2.2	2.12	2.1
RSP	3.84	4.5	3.66	4.2	3.33	4.0
BSL	4.21	5.8	3.83	4.6	3.63	4.2
ISP	2.20	2.9	1.89	2.5	1.91	2.4
VISL	0.00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

PRODUCT MIX POST EXPANSION – SALEABLE STEEL

FY 2018-19



Post
Ongoing Expansion



MODERNISATION & EXPANSION PLAN - SALEM STEEL PLANT

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

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)

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).

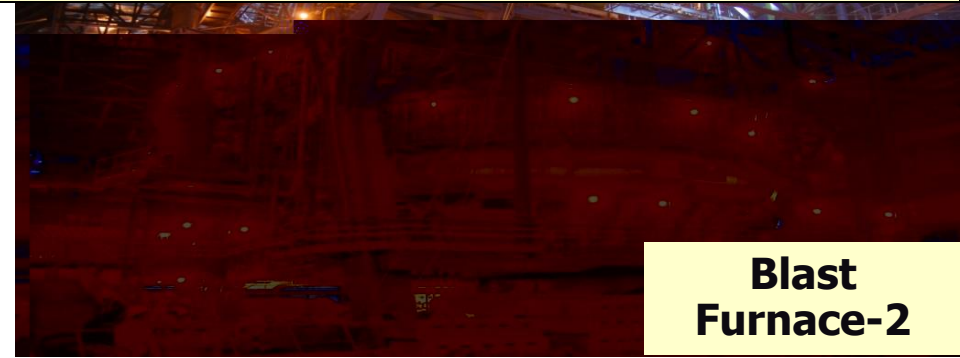
Production (MTPA) :

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

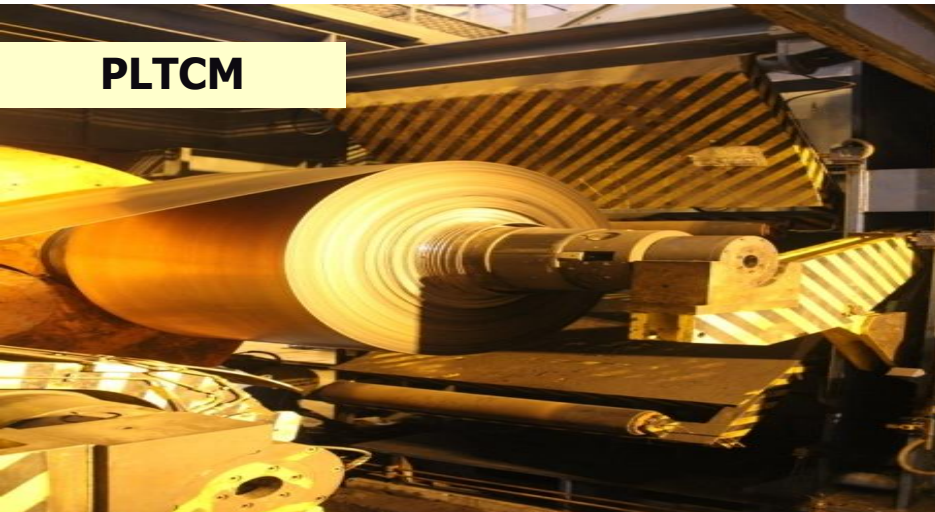
Current Progress of Expansion at Bokaro Steel Plant



**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 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	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



3rd BOF Converter



3rd Slab Caster

MODERNISATION & EXPANSION PLAN– DURGAPUR STEEL PLANT

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
2017-18	15.983	25.87	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. **Depleted resources and quality constraints New Pellet Plants shall use the existing reserve of fines incl. dumps & slimes at captive mines.
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	
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
2018-19	17.513	16.515	<ul style="list-style-type: none"> • Import Component – 91% • Over 70% of imported coal is sourced from Australia. • Indigenous: 9% • 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	 <p>RITES THE INFRASTRUCTURE PEOPLE</p>	<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	 <p>TATA TATA STEEL</p>	<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
•	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

Statements / Data which do not relate to SAIL and are used / made in this presentation are from sources which are considered reliable and Company cannot be held for its authenticity.

Further, statements describing the Company's projections, estimates, expectations are “forward looking statements” within the meaning of applicable securities laws and regulations. Actual results may differ materially from those expressed depending on the circumstances / situations.

Major factors that could affect the Company's operations include, among others, economic conditions affecting demand / supply and prices in the domestic and global markets in which the Company operates, changes in Government regulations, tax laws and other statutes, etc.