

Steel Authority of India Limited

Performance Highlights

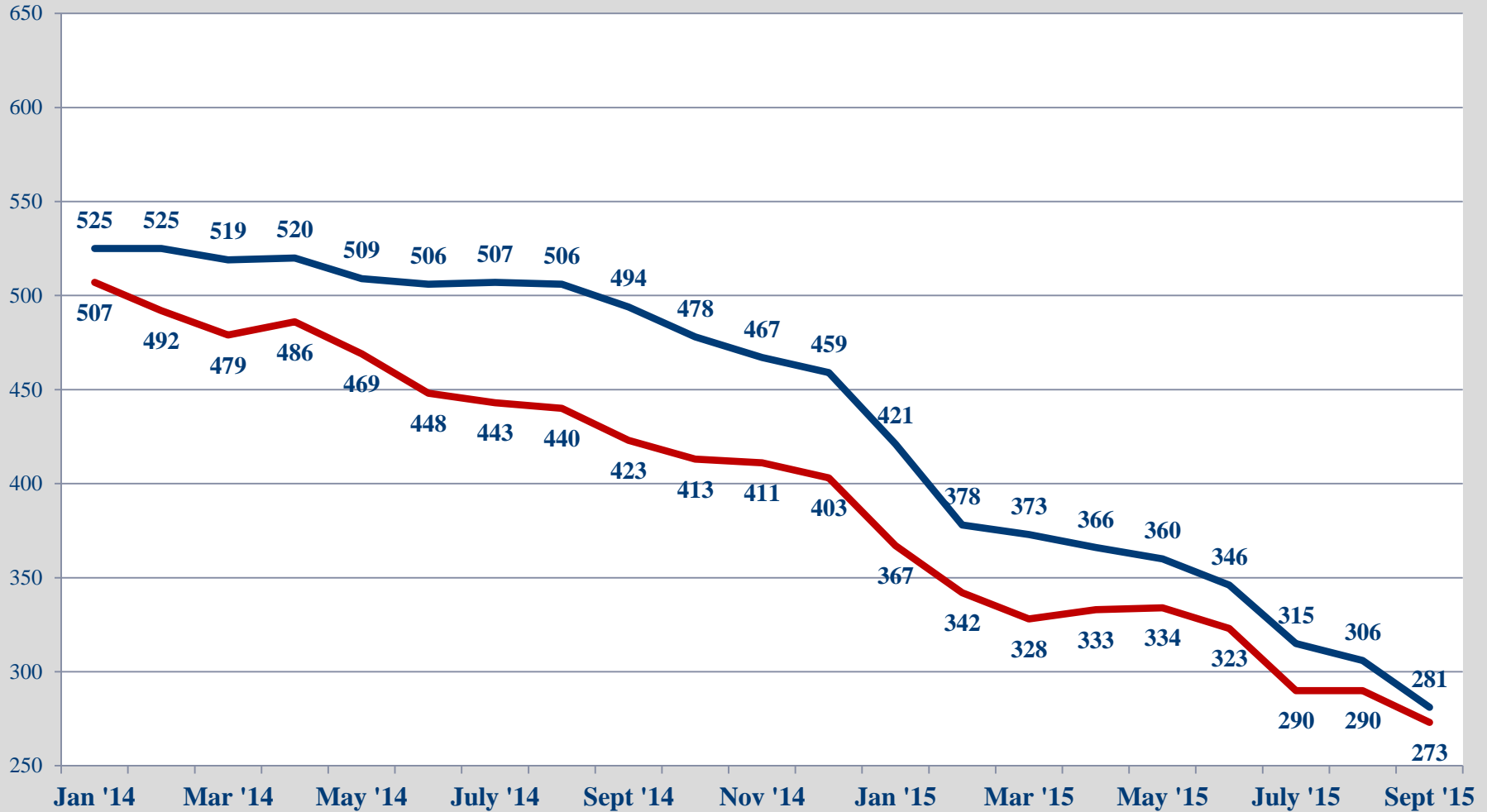
Q2-FY16



There's a little bit of SAIL in everybody's life

Macro-Economic Trends for Steel Sector

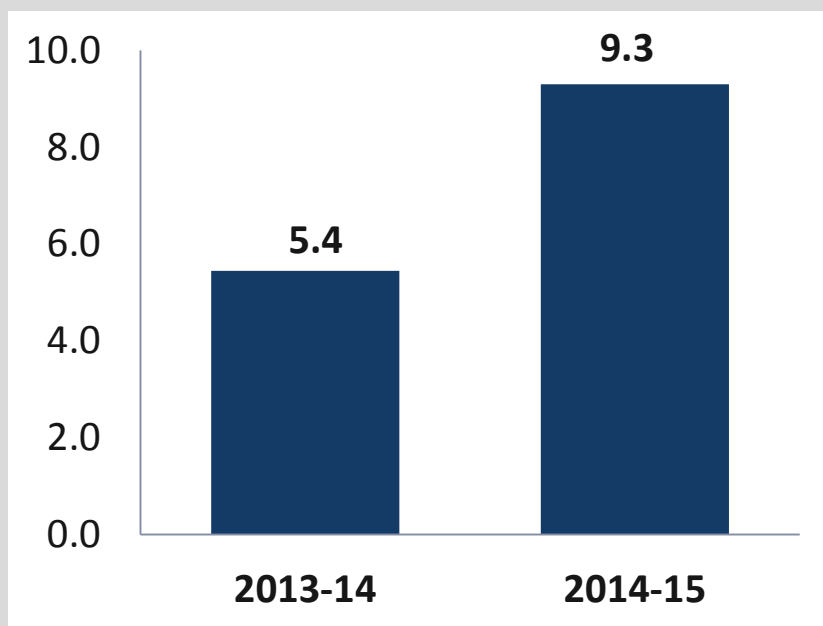
Global Steel Price Trends



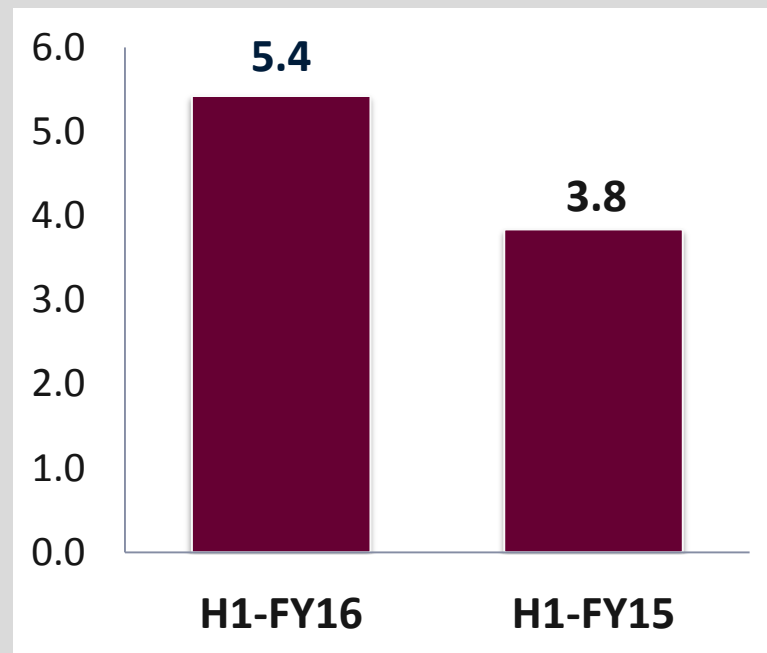
— HRC/China Export S S400 FOB Tianjin China\$/t — Rebar/China Export FOB China \$/t

Import of Finished Steel in India

Quantity in million tonne



**Import of Finished Steel
(Apr. – Mar.)**



H1 FY16 vs. H1 FY15

SAIL

Performance Highlights

Financial Highlights

H1 FY 16 vs. H1 FY 15

Amount in Rs. crore

Particulars	H1 FY 16	H1 FY 15	Increase/ Decrease	% change
Gross Sales	20797	25449	-4652	-18.3%
EBIDTA	-825	2824	-3649	-129.2%
PBT*	-2598	1364	-3961	-290.5%
PAT*	-1378	1179	-2557	-216.8%

Financial Highlights

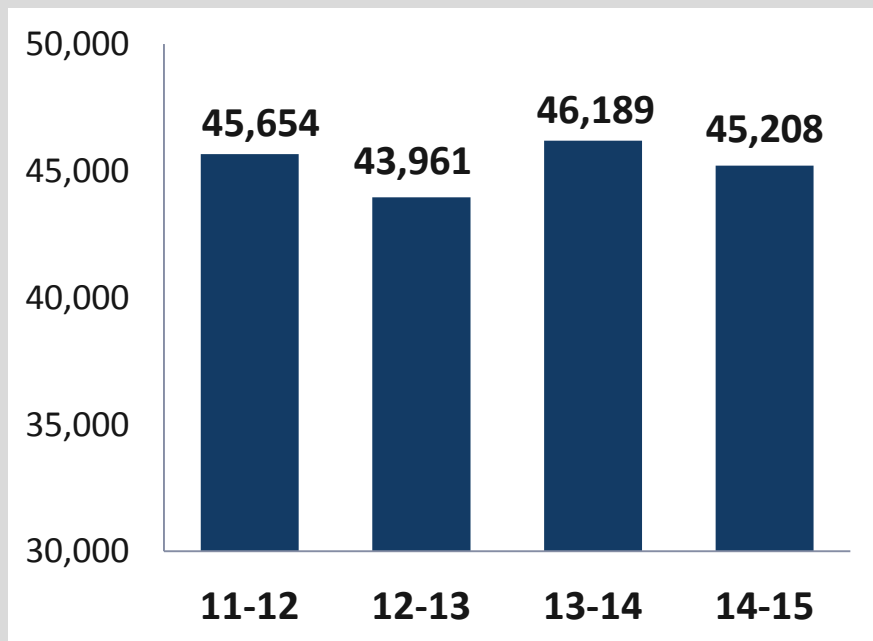
Q2 FY 16 vs. Q2 FY 15

Amount in Rs. crore

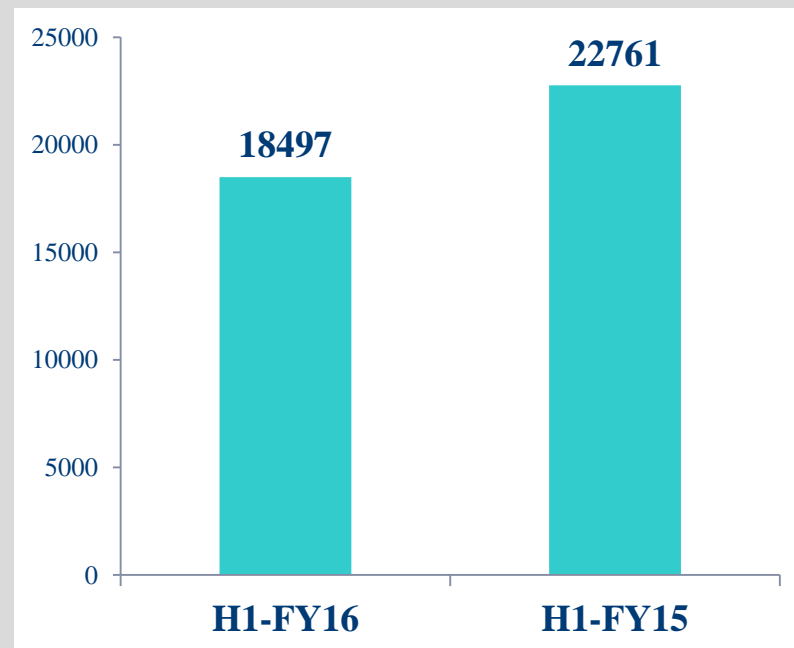
Particulars	Q2 FY 16	Q2 FY 15	Increase/ Decrease	% change
Gross Sales	10244	12934	-2690	-20.8%
EBIDTA	-918	1498	-2416	-161.2%
PBT*	-1821	751	-2572	-342.5%
PAT*	-1056	649	-1705	-262.6%

Financial Performance

Net Sales (Rs. cr.)



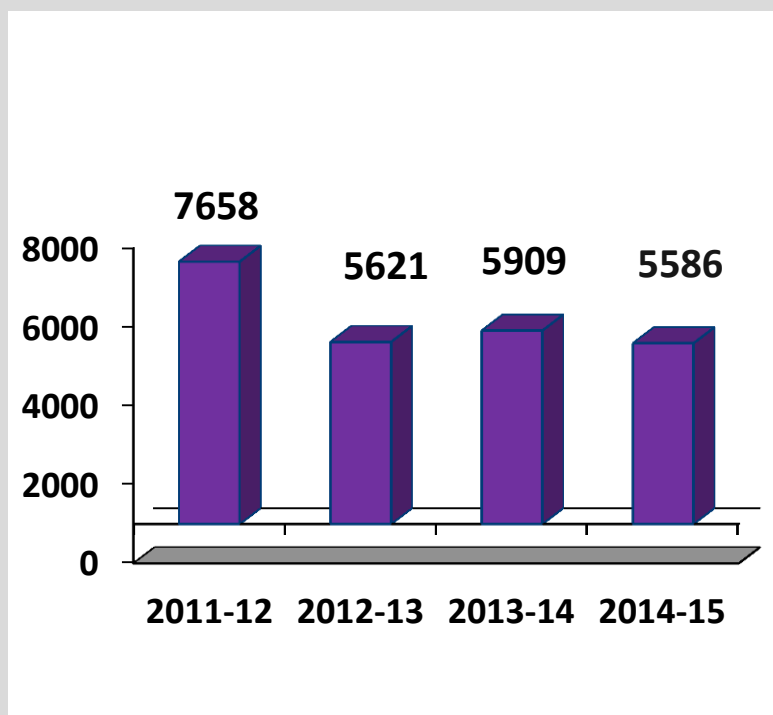
**Annual Net Sales Performance
(Apr. – Mar.)**



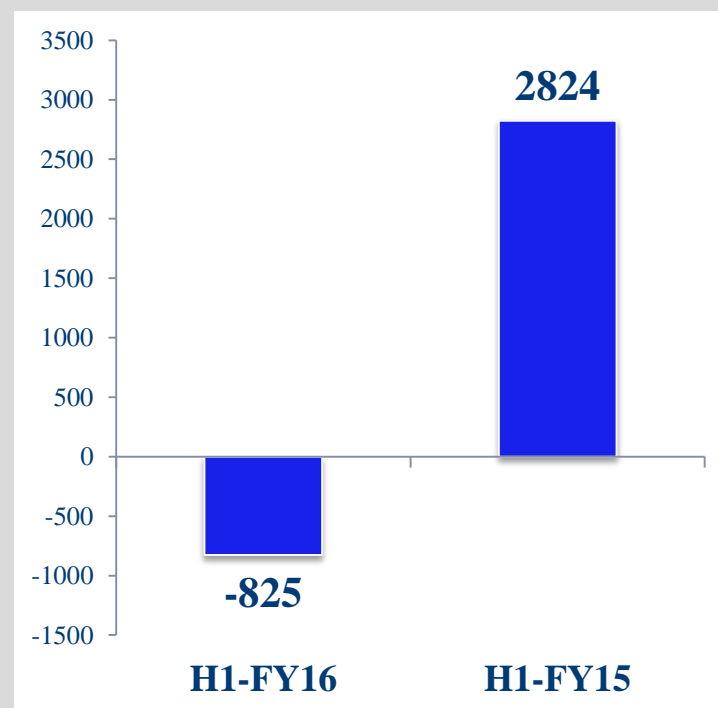
H1-FY16 vs. H1-FY15

Financial Performance

Earning Before Interest Depreciation and Tax (EBIDTA) (Rs cr.)



**Annual EBIDTA Performance
(Apr. – Mar.)**

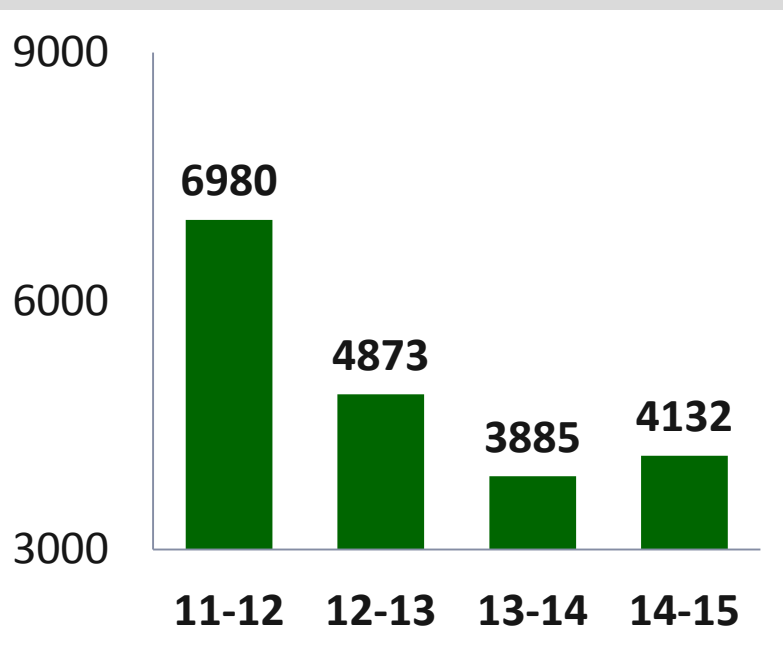


H1 – FY16 vs. H1 – FY15

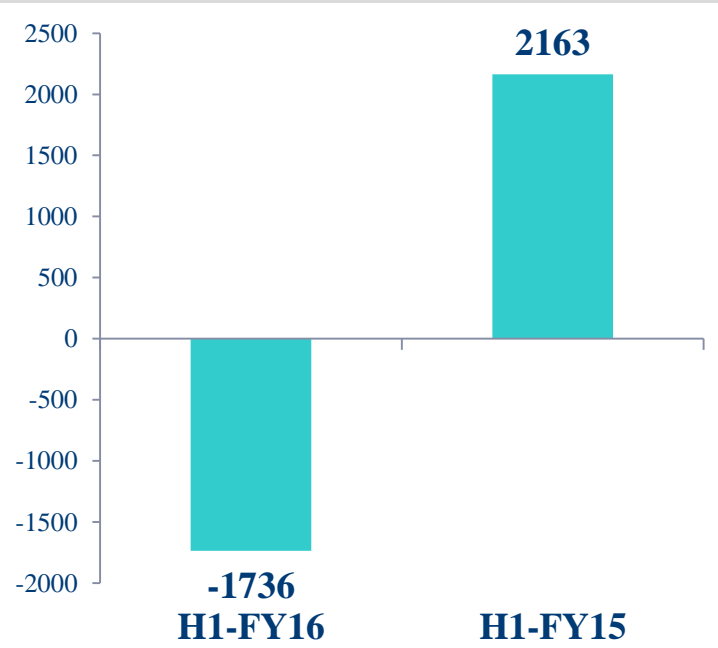
Financial Performance

Cash Profit Unit(Rs cr.)

Annual Cash Profit Performance (Apr. – Mar.)



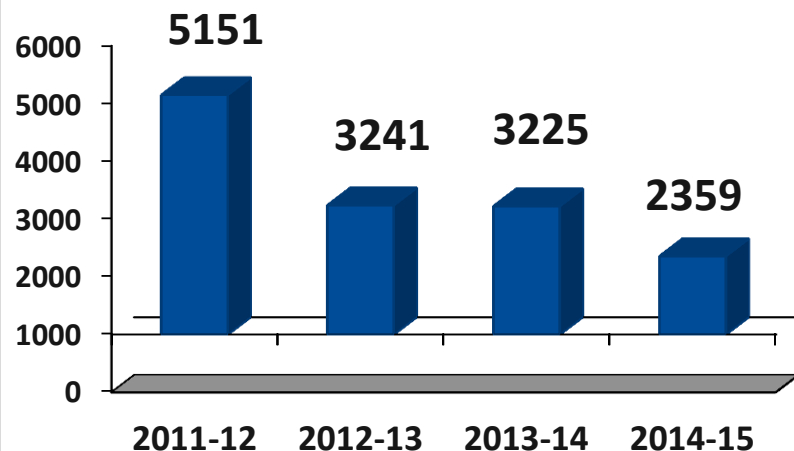
H1– FY16 vs. H1– FY15



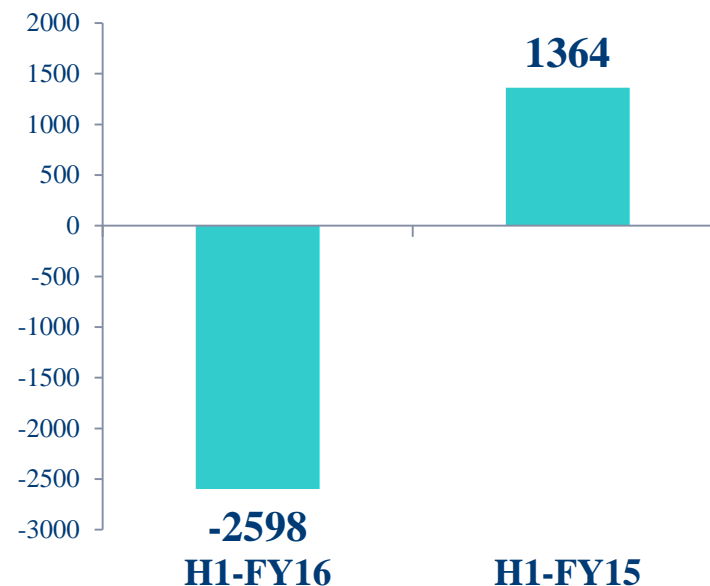
Financial Performance

PBT (Rs. cr.)

**Annual PBT Performance
(Apr. – Mar.)**



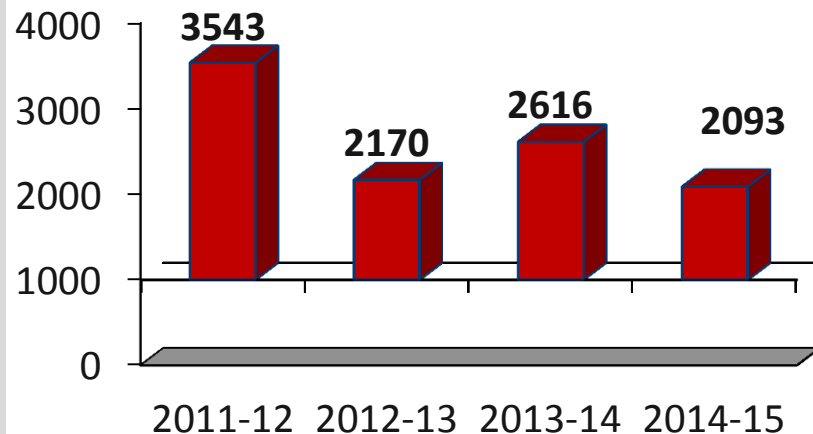
H1 – FY16 vs. H1 – FY15



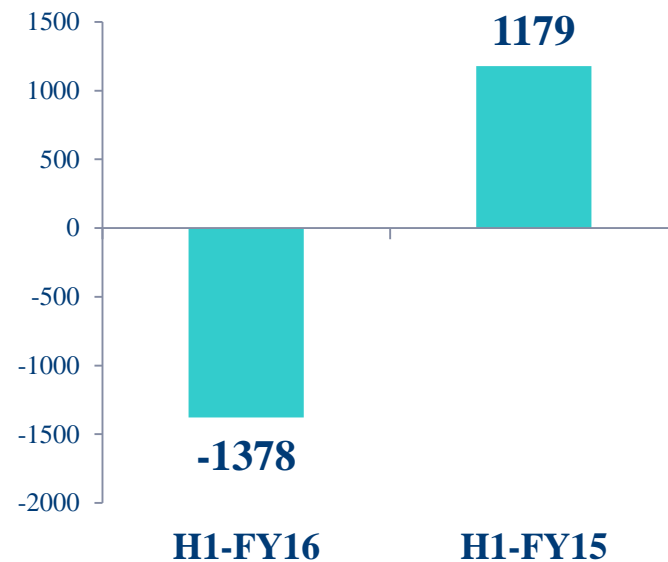
Financial Performance

PAT (Rs. cr.)

**Annual PAT Performance
(Apr. – Mar.)**

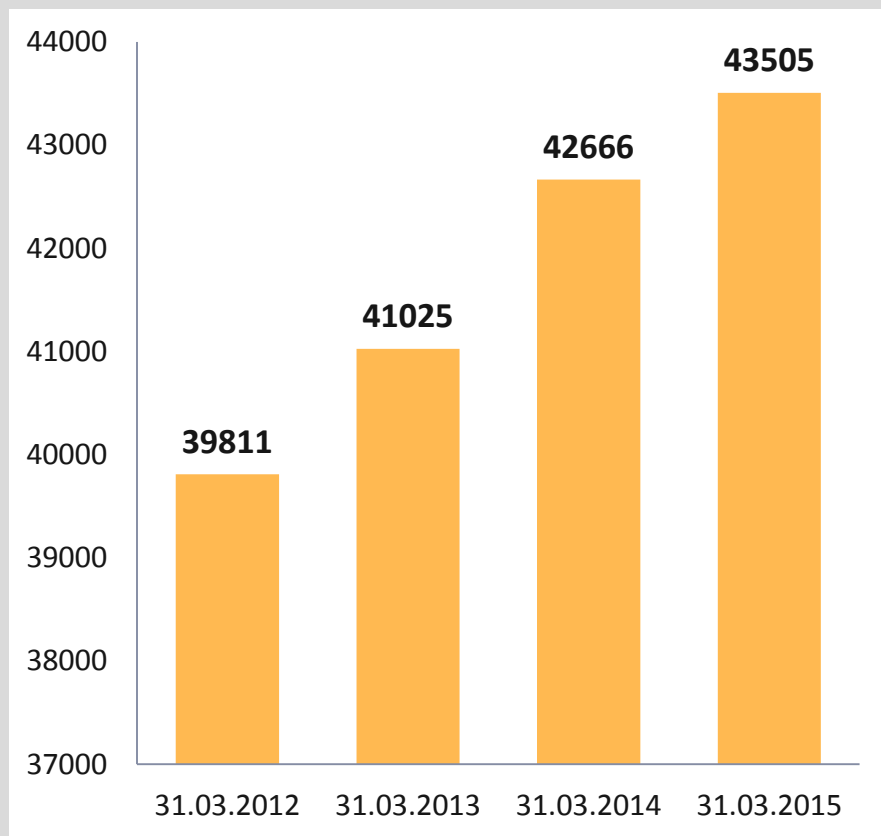


H1 – FY16 vs. H1 – FY15

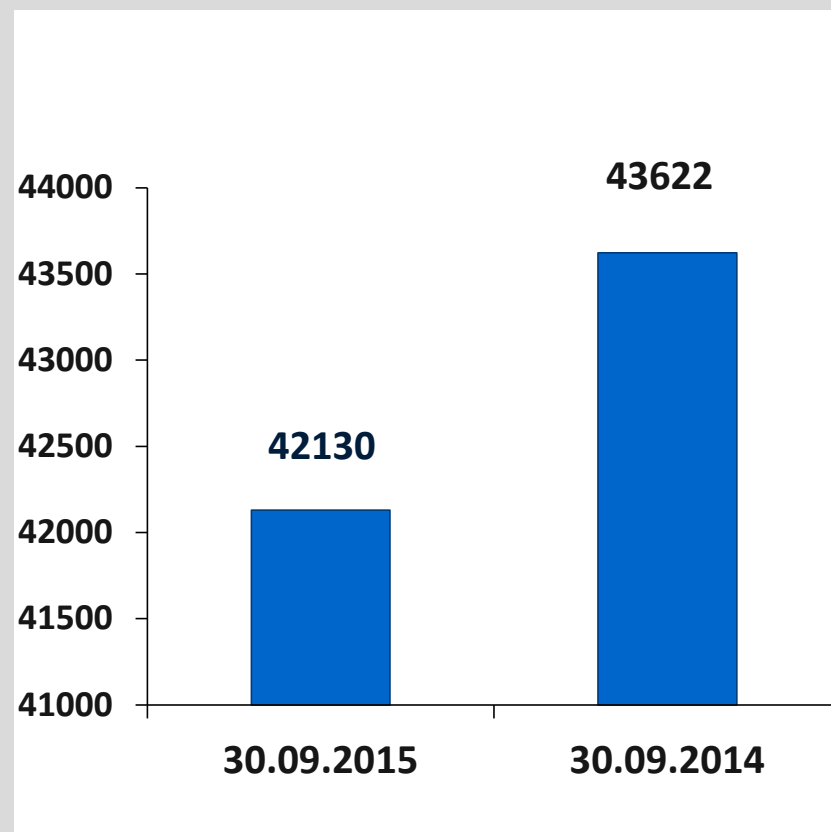


Financial Performance

Net Worth (Rs. cr.)



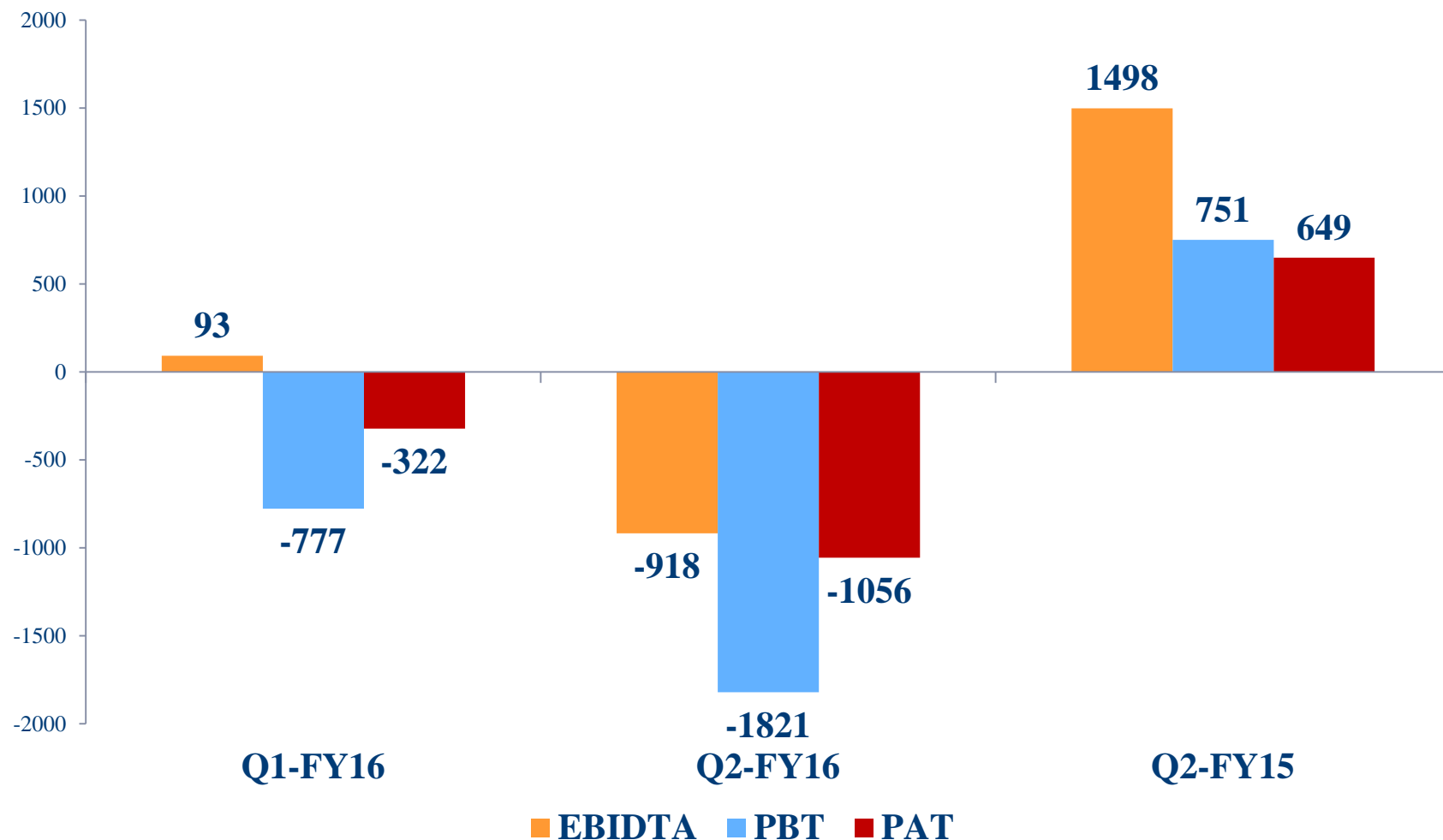
Net Worth Value - Annual



H1– FY16 vs. H1 – FY15

Financial Performance

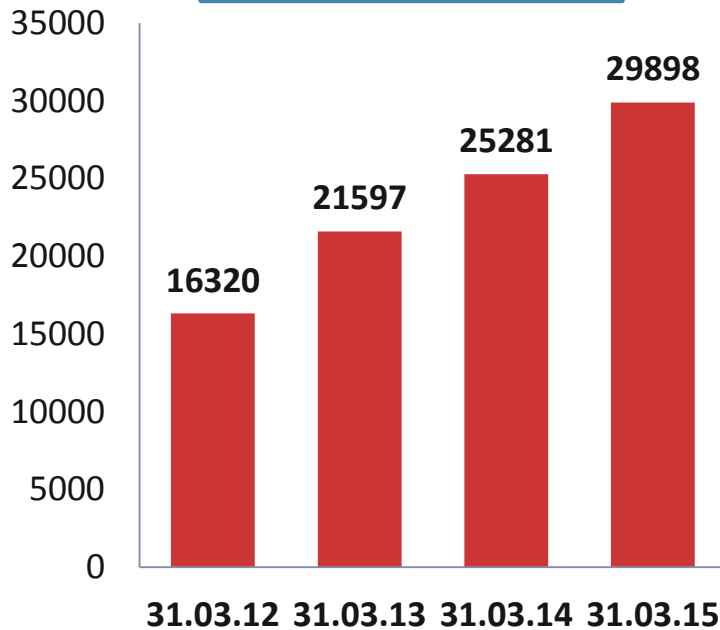
Quarter – wise Profits (Rs. crore)



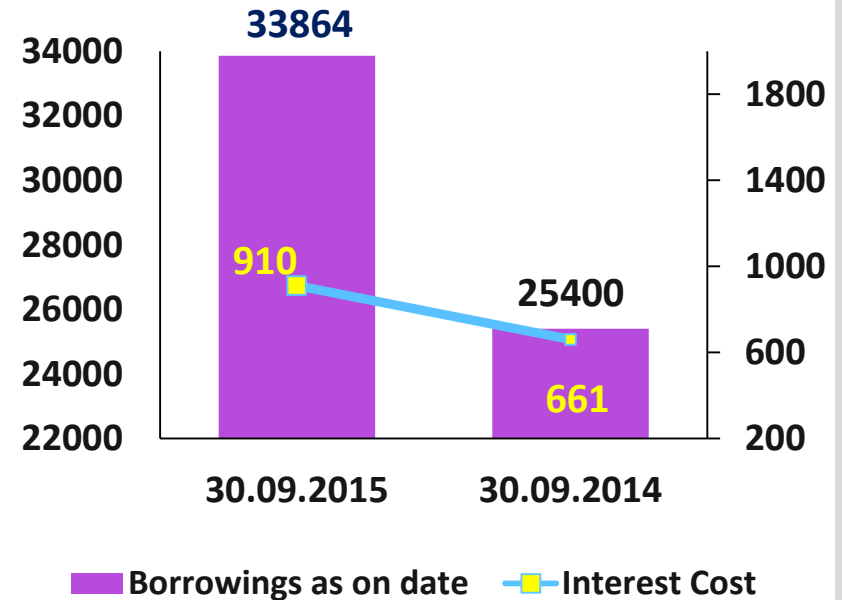
Financial Performance

Borrowings (Rs. Cr.)

Annual Borrowings



Borrowings and Interest Cost

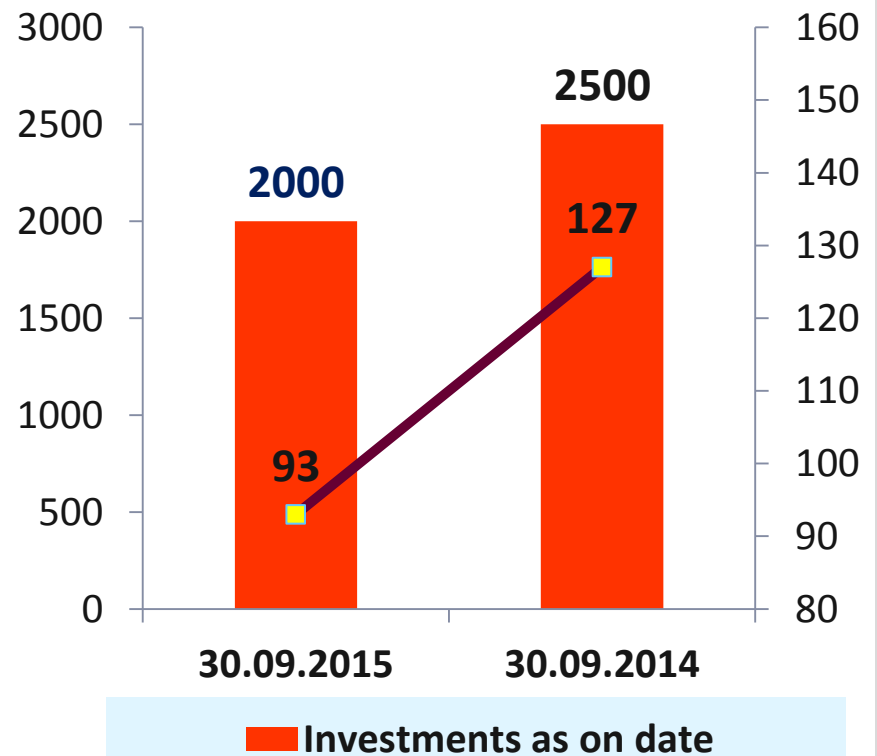
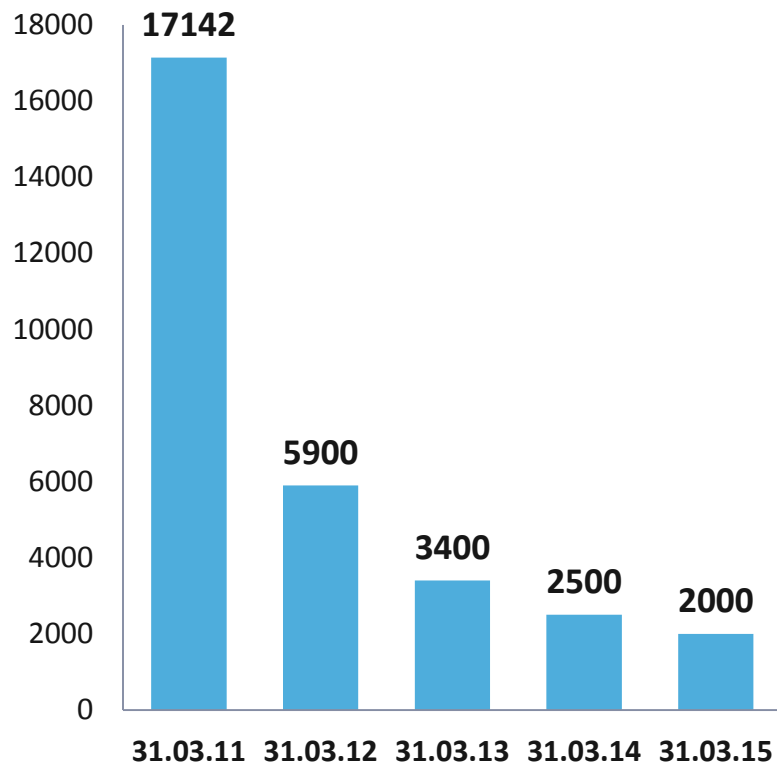


The ongoing CAPEX is being financed through Debt-Equity Ratio of 1:1

Year	31/03/2012	31/03/2013	31/03/2014	31/03/2015	30/06/2015	30/09/2015
D/E Ratio	0.41	0.53	0.59	0.69	0.73	0.80

Financial Performance

Short Term Investments in Banks (Rs. Cr.)



Performance Highlights H1 FY16

Saleable Steel Production of 5.76 million tonne

Crude Steel Production of 7.03 million tonne

Hot Metal Production of 7.86 million tonne

Semis component in production 25% of saleable steel

Saleable Steel Sales of 5.43 million tonne

Value Added Steel Production of 2.45 million tonne

Production through Concast route of 5.24 million tonne

Performance Highlights H1 FY16

Major Techno-economic Parameters

Coke Rate at 493 kg / THM

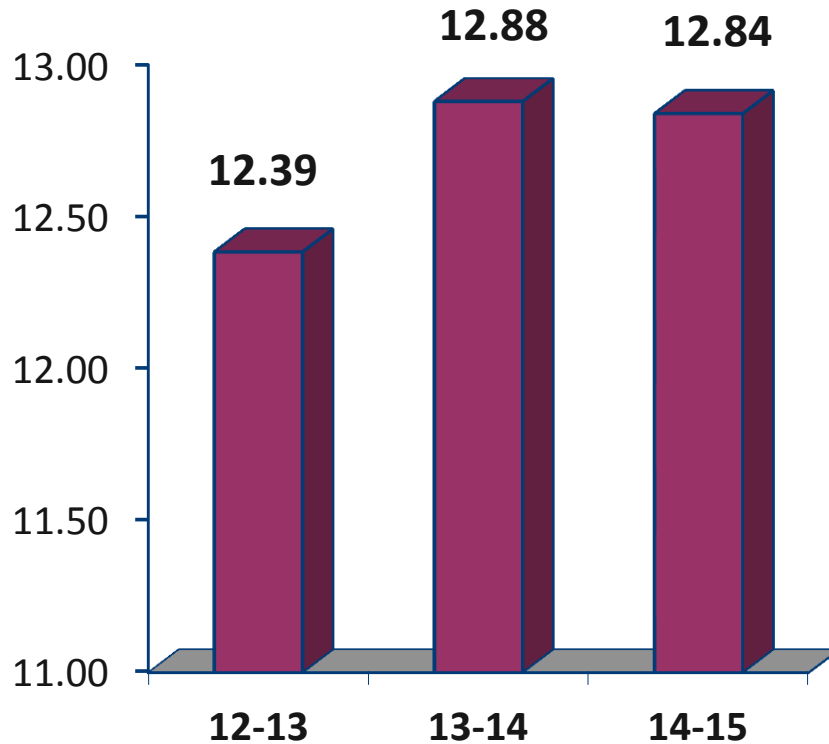
Fuel Rate at 570 kg/THM

Specific Energy Consumption at 6.55 Gcal/TCS

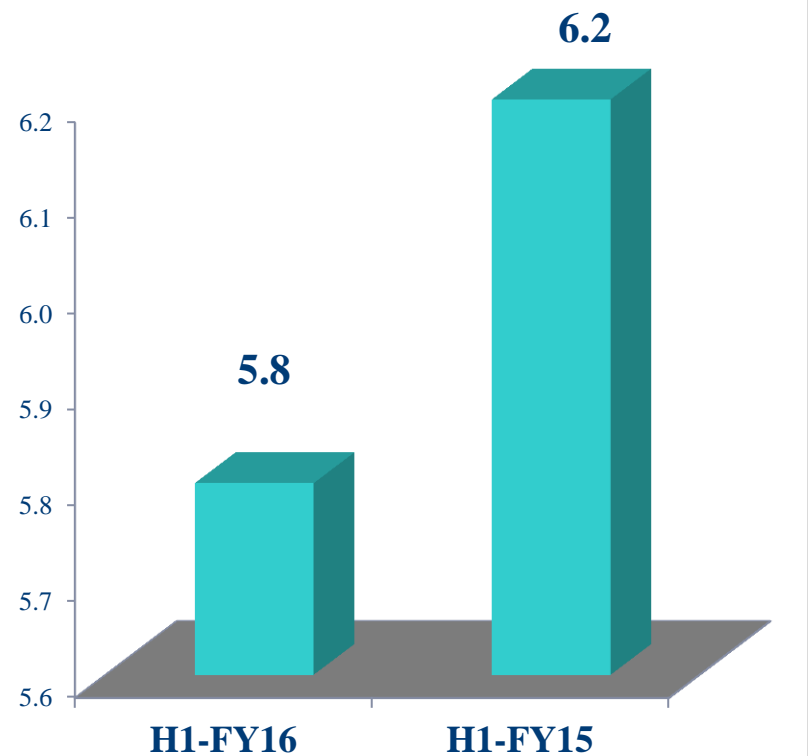
BF Productivity at 1.52 T/m³/day

Production Performance

Saleable Steel (in Million Tonne)



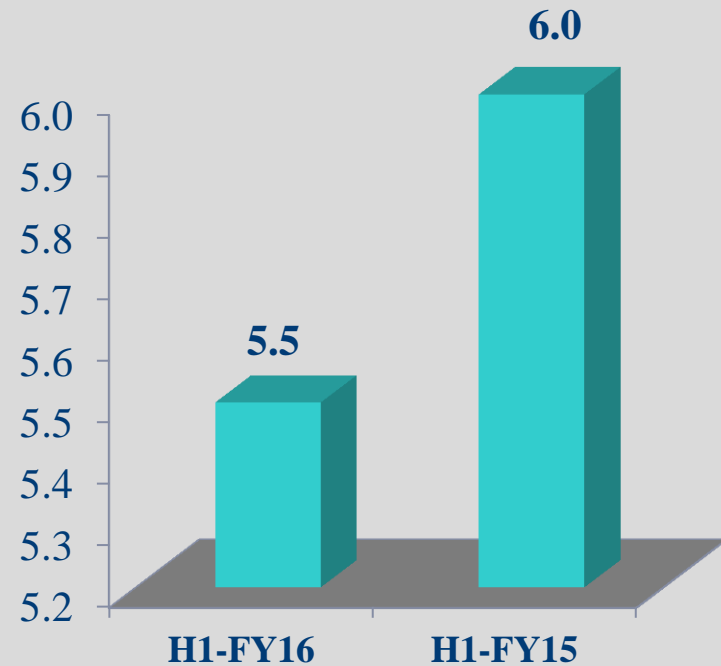
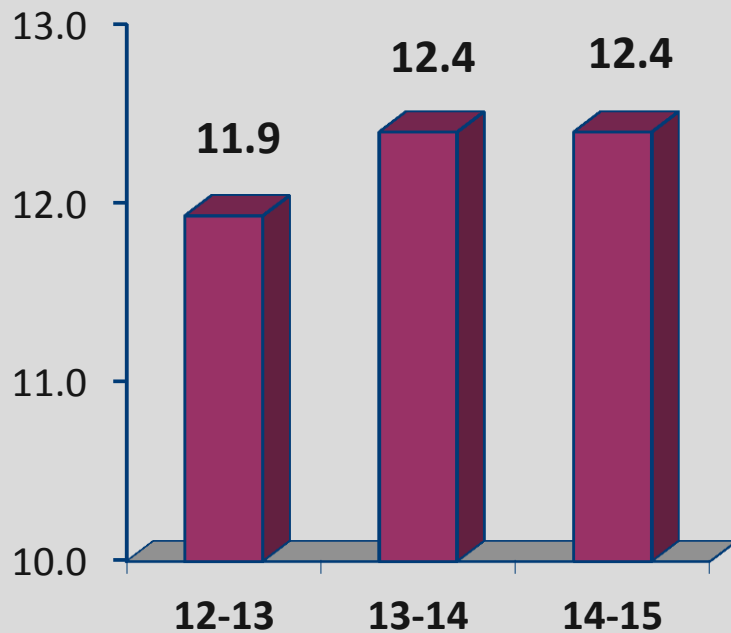
**Annual Saleable Steel Production
(including Special Steel Plants)**



**Saleable Steel Production
(incl. Spl. Steel Plants)**

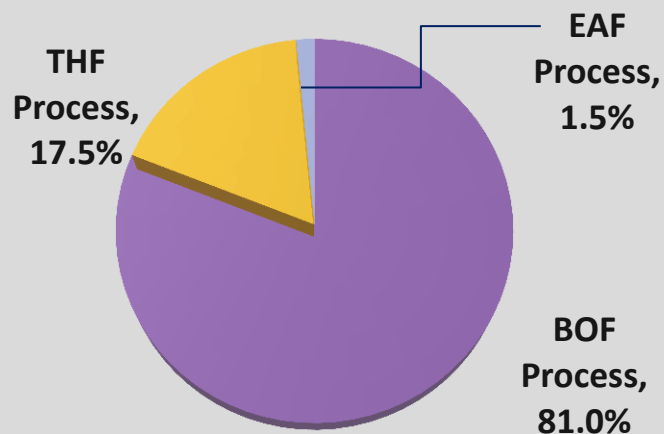
Production Performance

Saleable Steel from 5 Integrated Steel Plants (in Million Tonne)

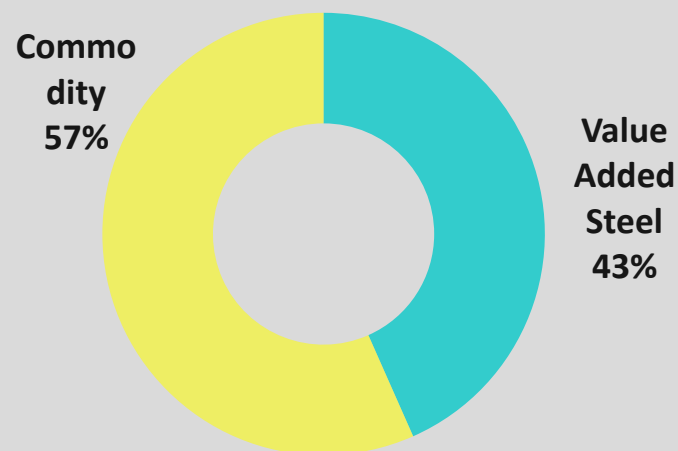


Production by Process & Sales Mix: H1FY 16

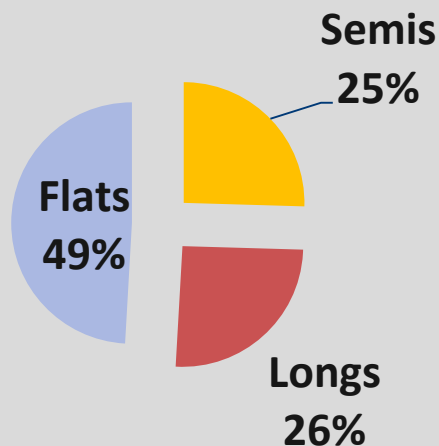
Crude Steel Production by process



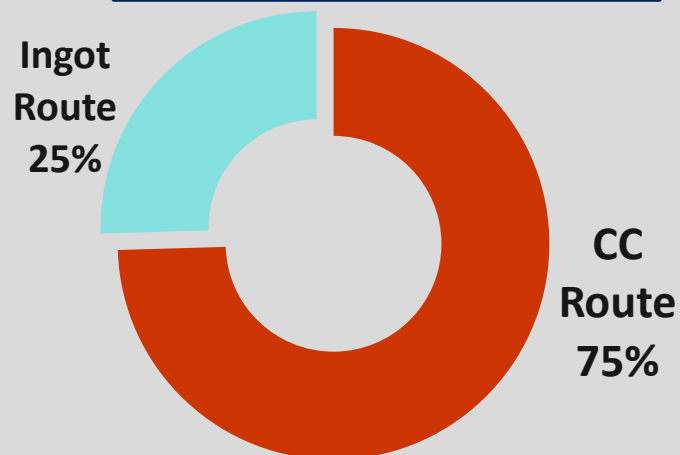
Production of Value Added Steel (5 ISPs)



Production of Saleable Steel (5 ISPs)

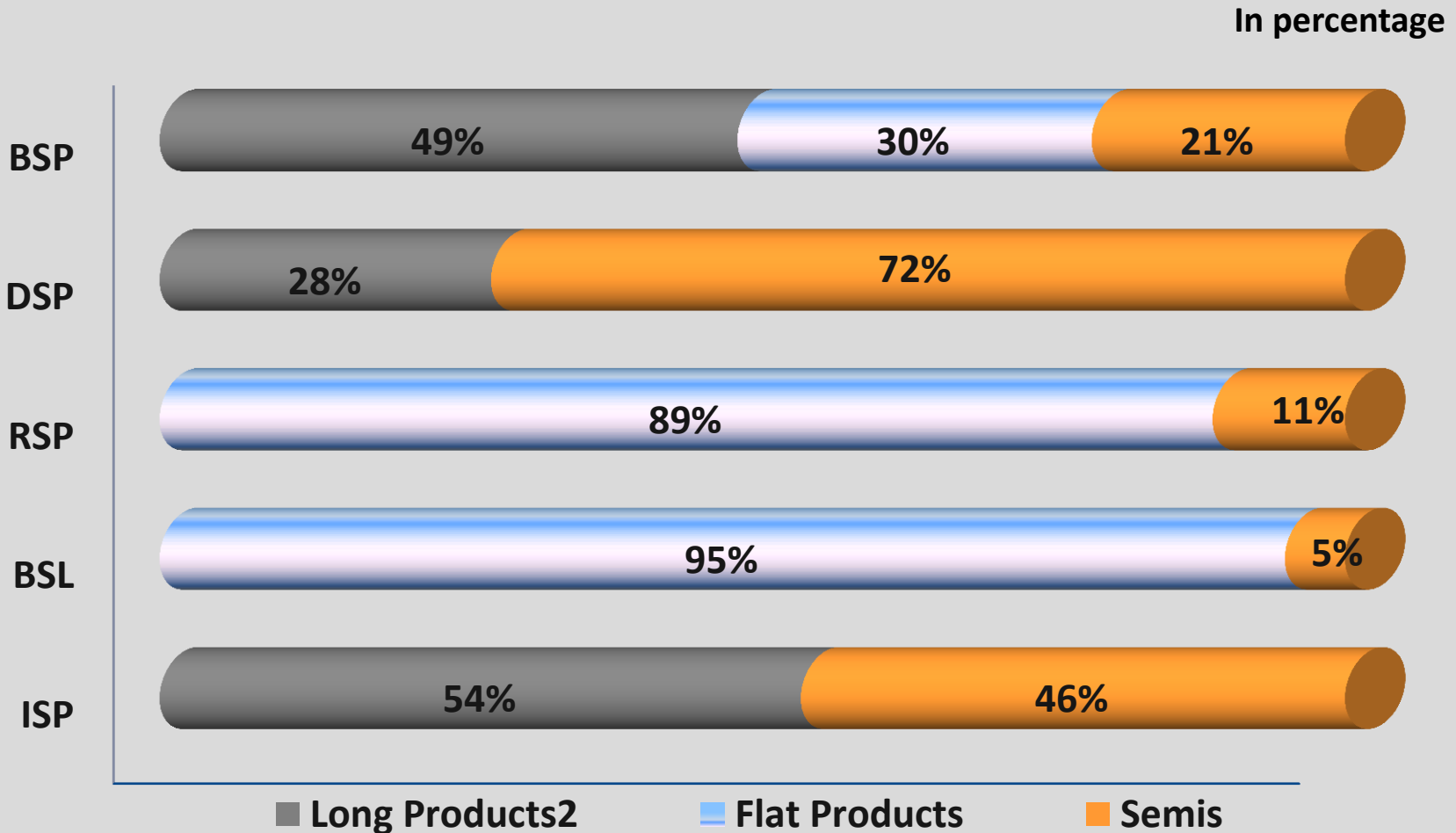


Production by Process



Product Mix:

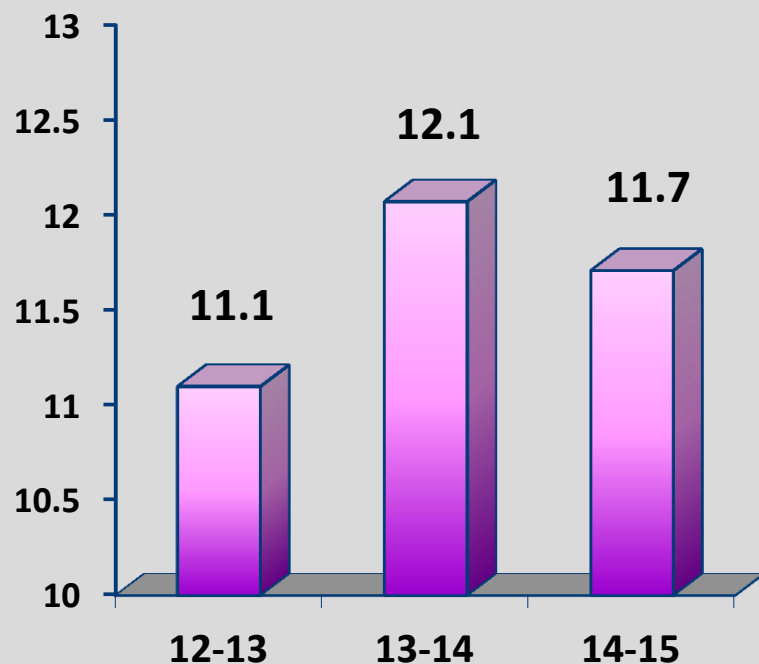
Production Five Integrated Steel Plants: H1 FY16



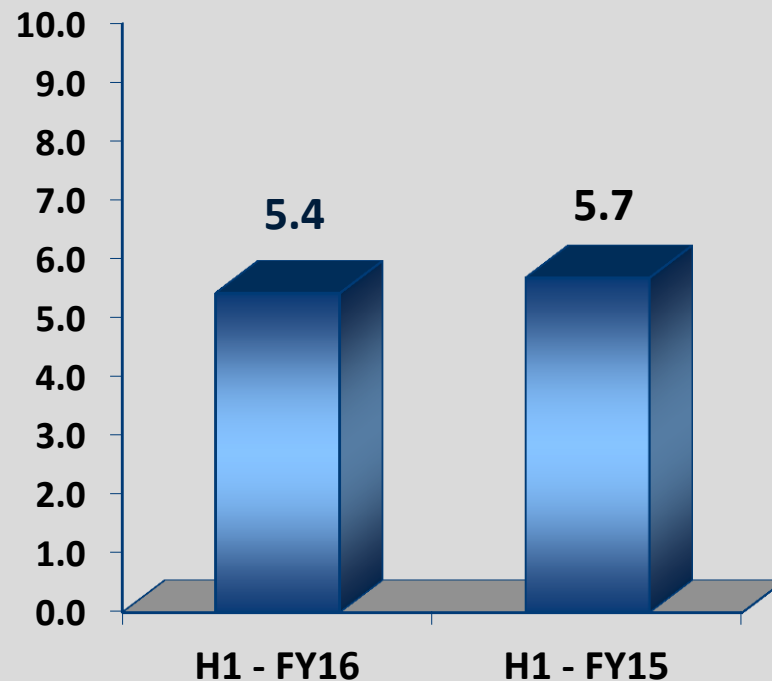
SAIL – 5 ISPs : Semis 25%; Flats 49%; Longs 26%

Sales Performance

Saleable Steel (in million tonne)

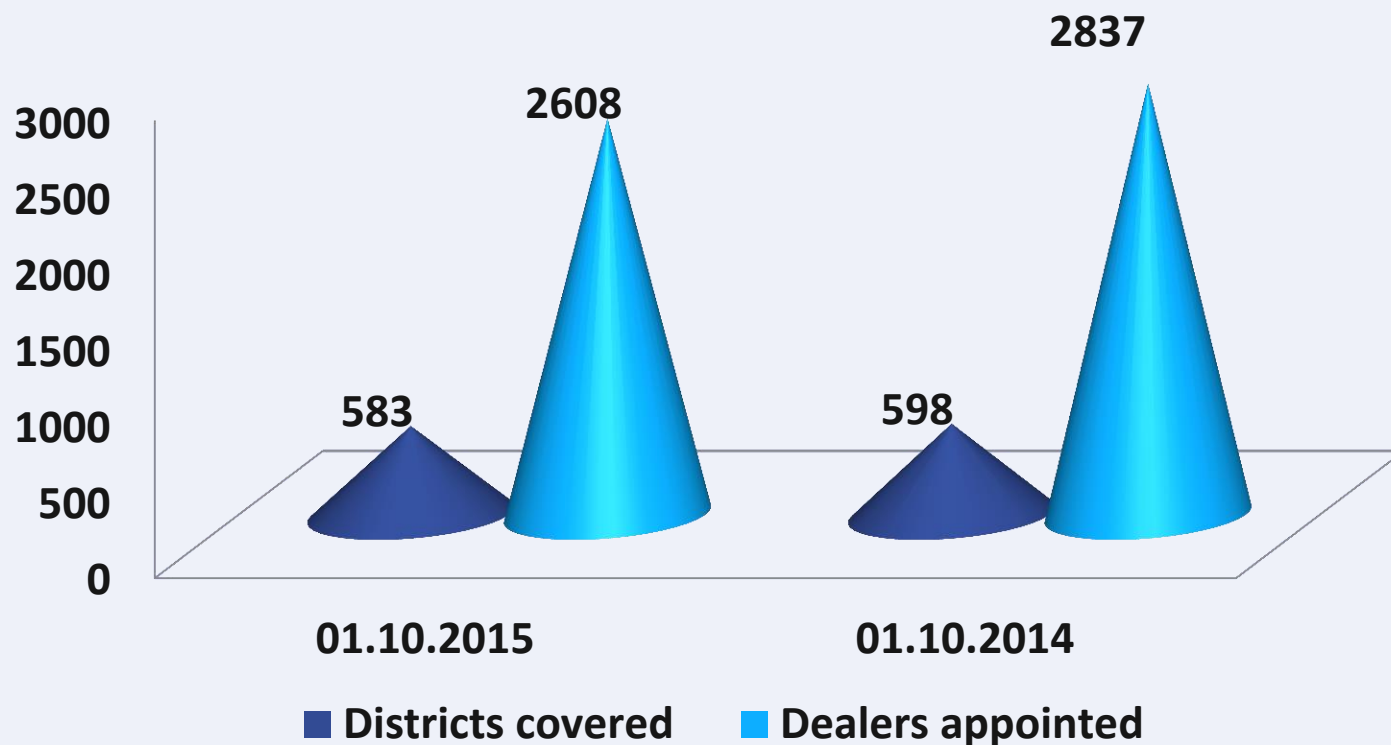


**Annual Saleable Steel Sales
(including Special Steel Plants)**



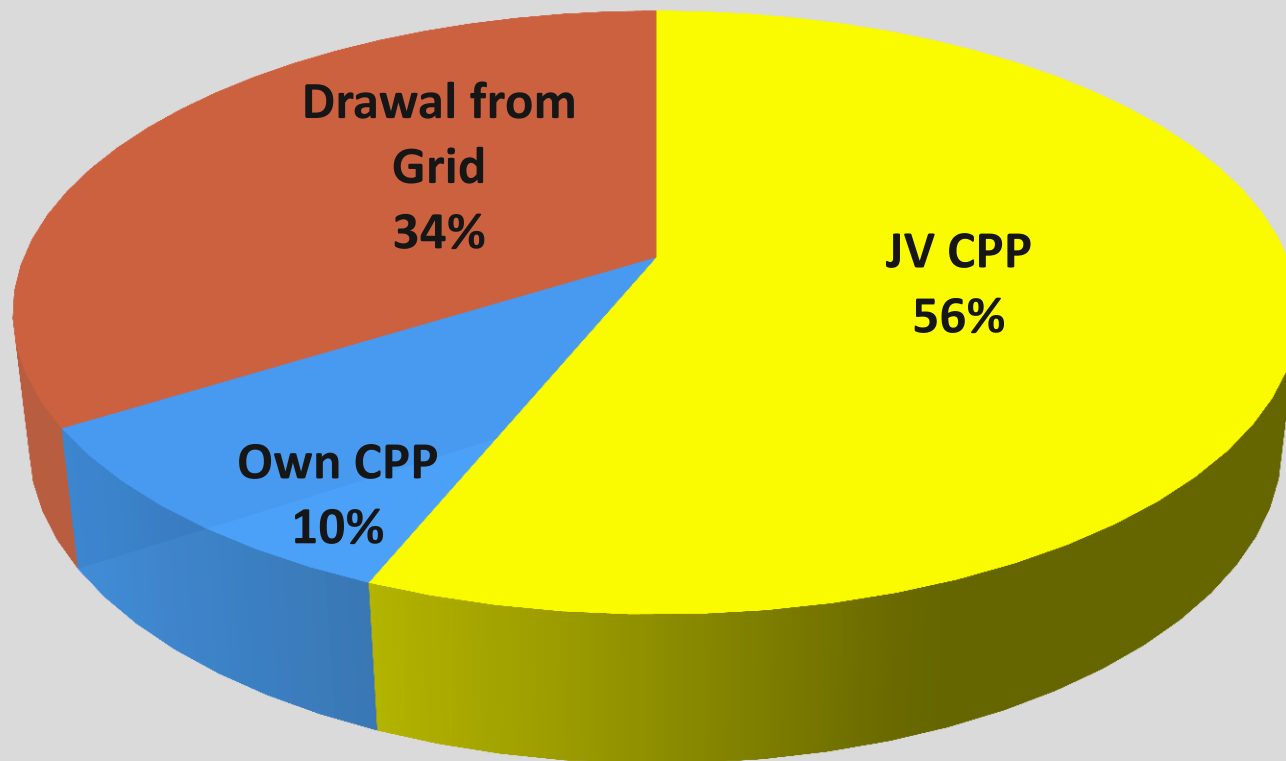
**Saleable Steel Sales
(incl. Spl. Steel Plants)**

Sales through Dealers Network



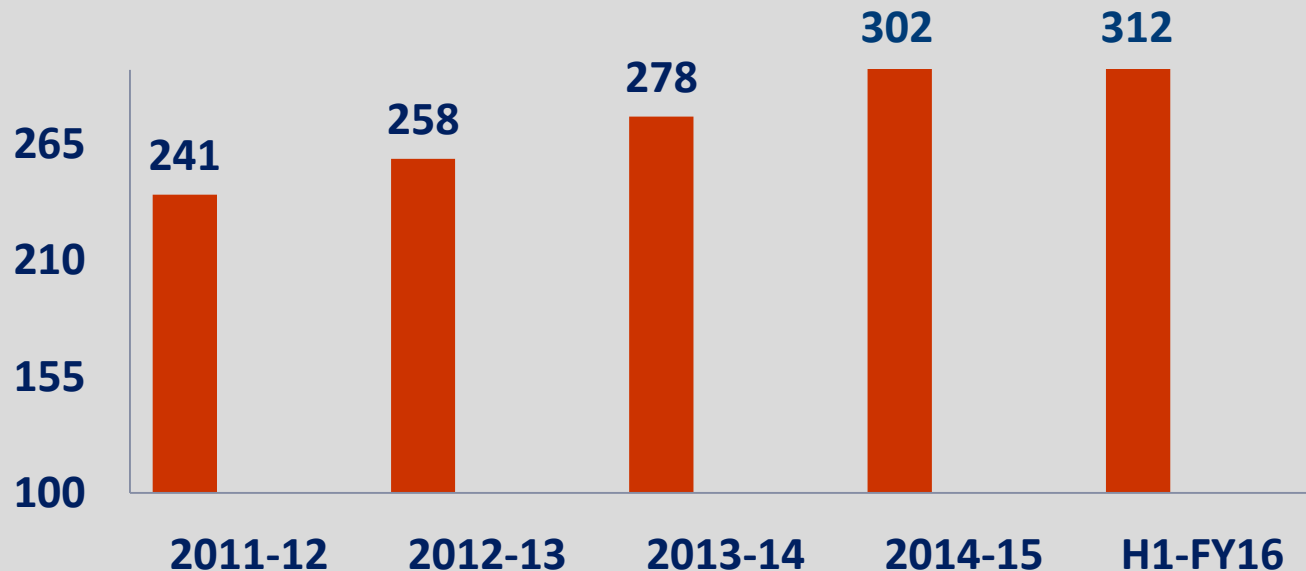
***Note: Sales through Dealers during H1 FY was 326,900 tonnes**

Captive Power Generation & drawal from the Grid For H1FY16



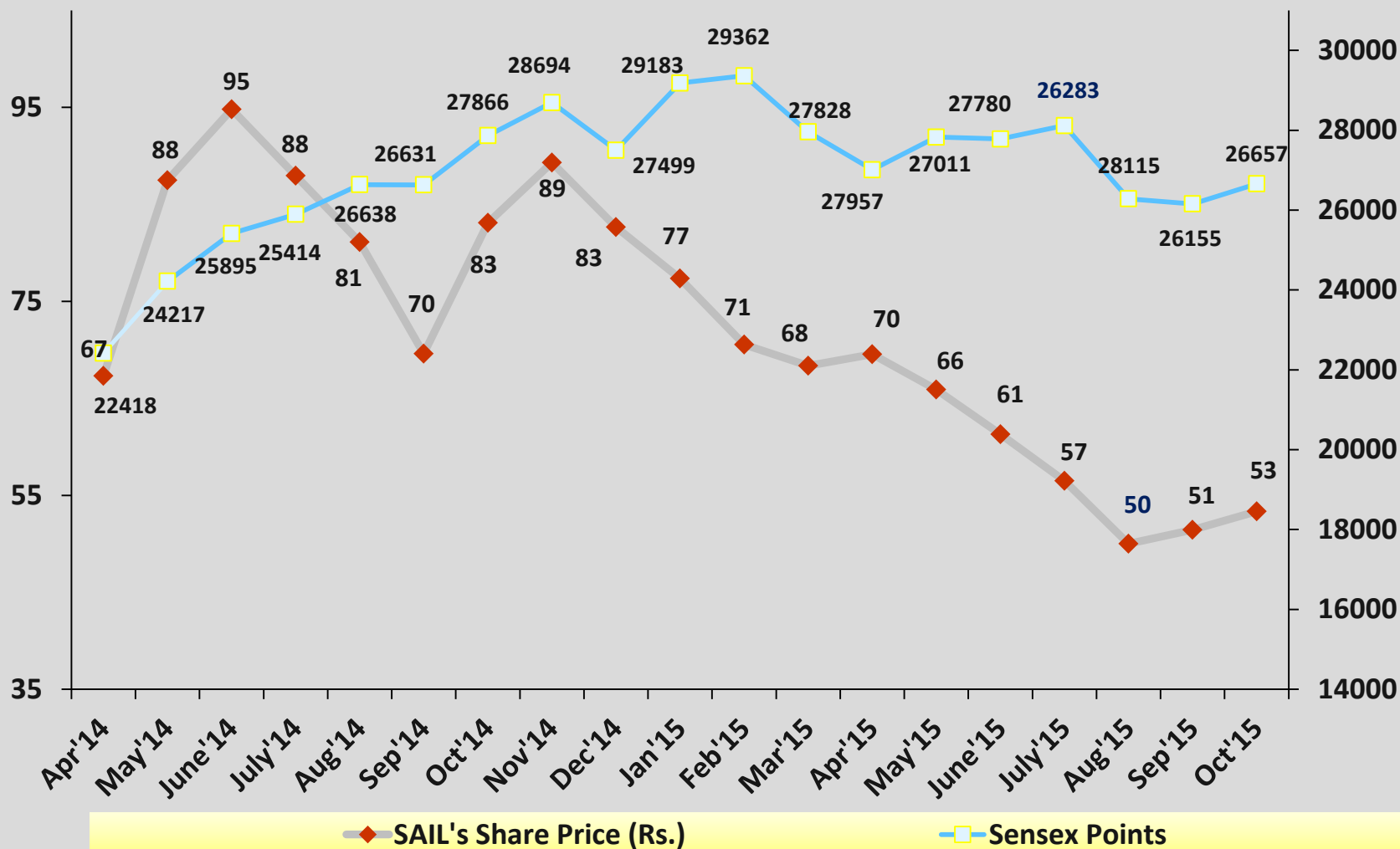
Labour Productivity

Tonne Crude Steel /man - year



Current manpower : 91,389 numbers as on 01.10.2015

Performance of SAIL Share price vis-à-vis Sensex



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

Dividend

	Interim (%)	Final (%)	Total (%)	Dividend (Rs. crore)	Dividend Tax (Rs. crore)
2014-15	17.5	2.5%	20	826	165
2013-14	20.2	-	20.2	834	142
2012 -13	16	4	20	826	134
2011 -12	12	8	20	826	134
2010 -11	12	12	24	992	162
2009 -10	16	17	33	1363	228
2008 –09	13	13	26	1074	181
2007- 08	19	18	37	1528	259

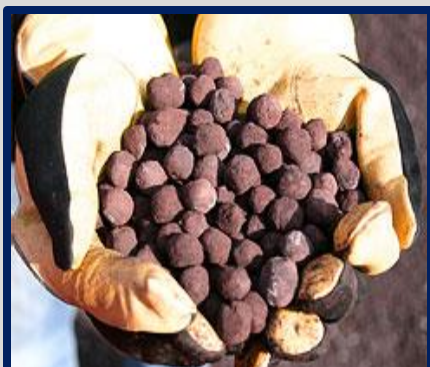
SAIL's Expansion & Modernisation Plan



in million tonne

Particulars	Actual production 2014-15	After On-going Expansion
Crude Steel	13.91	21.4
Saleable Steel	12.84	20.2

Expansion Plan : 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

Ongoing Projects

The Expected Outcome:

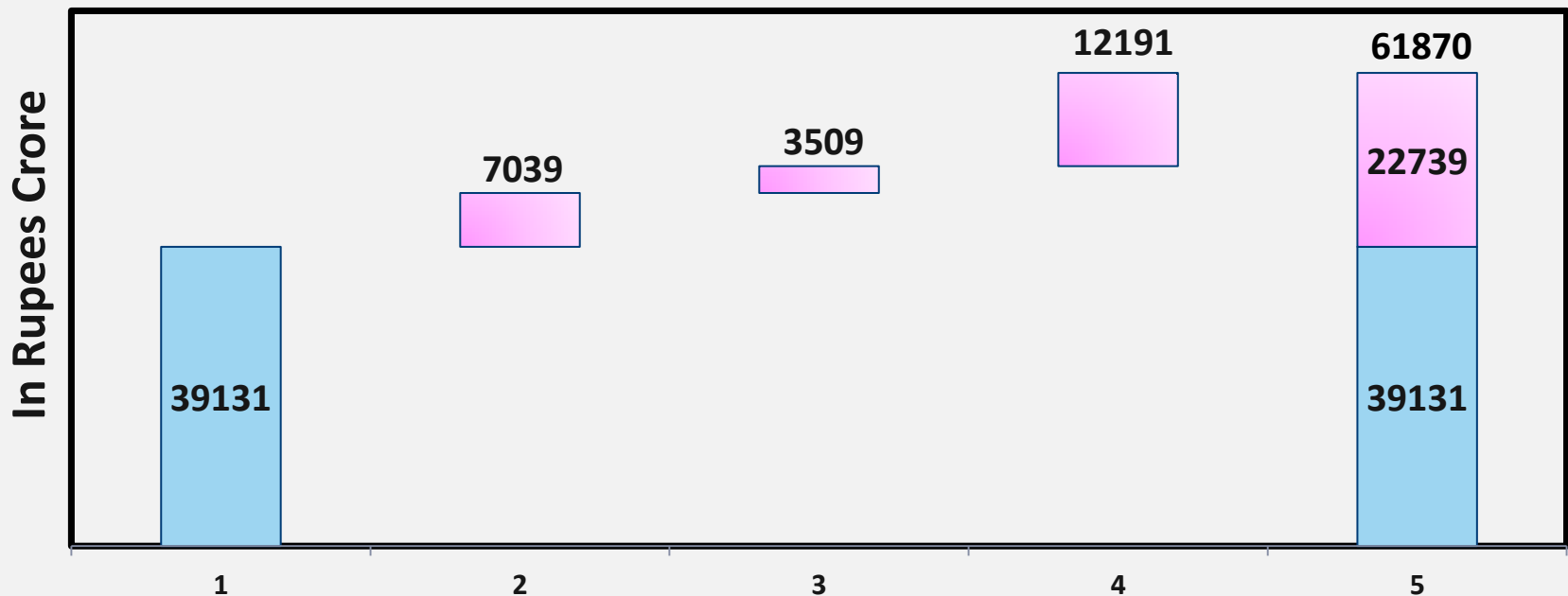
- Production through twin-hearth furnace (THF) route to be replaced by BOF-LD converter route.
- Production through Ingot – teeming route to be replaced with Continuous cast production route.
- Enhancement of Production volume by addition of 2 new 4060 m³ Blast Furnaces and one Blast Furnace of 4160 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.

Ongoing Projects

The Products to be 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



1 Expansion of existing capacity

2 Value-addition / Product-mix improvement

3 Technological up gradation / Modernization

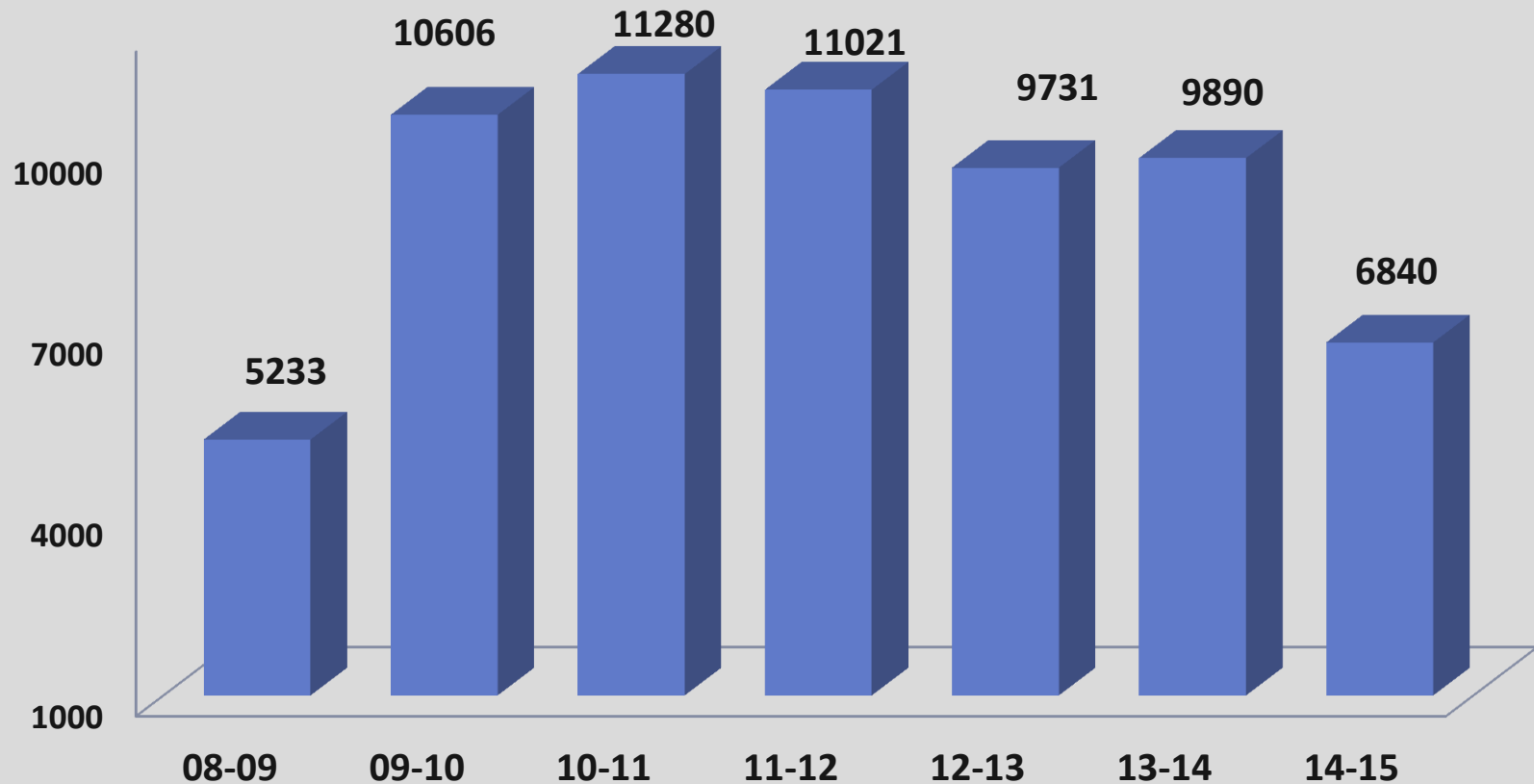
4 Sustenance including de-bottlenecking, AMR & Environment

5 Total Estimated Cost

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

Total Capital Expenditure Including on Modernisation & Expansion

Unit : Rs crore

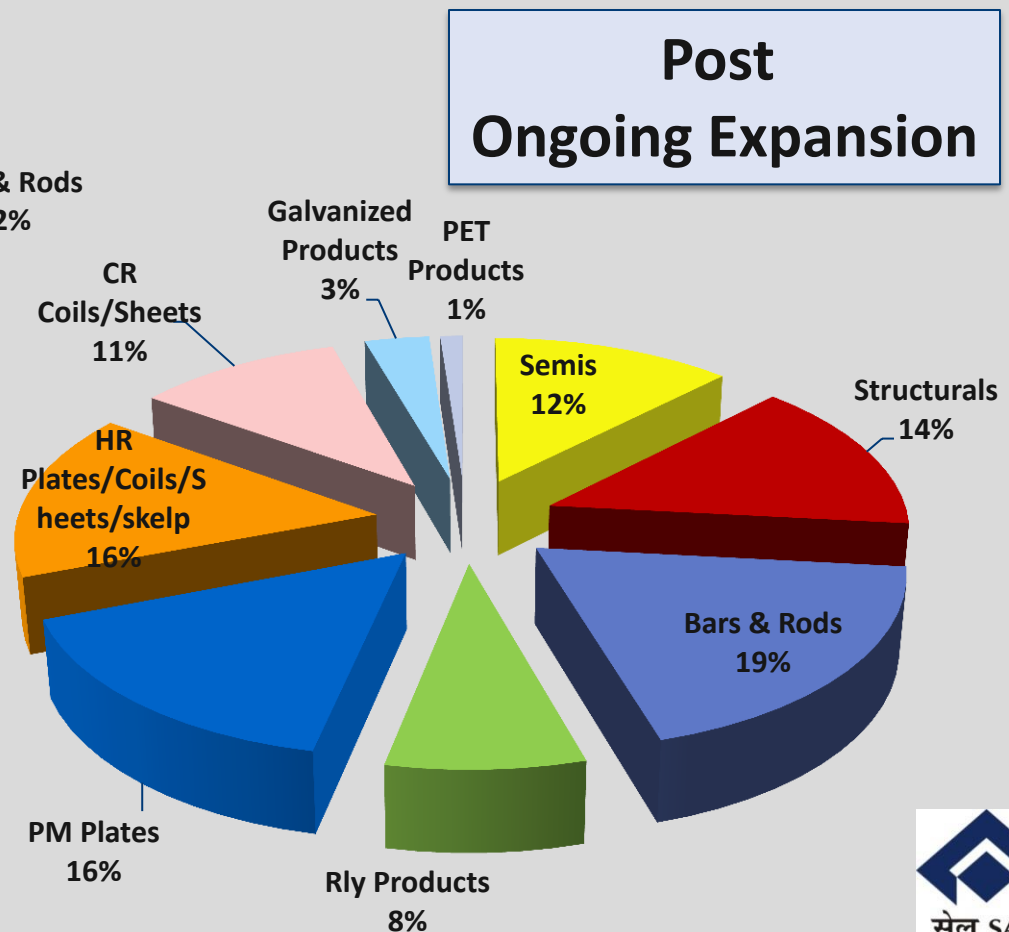
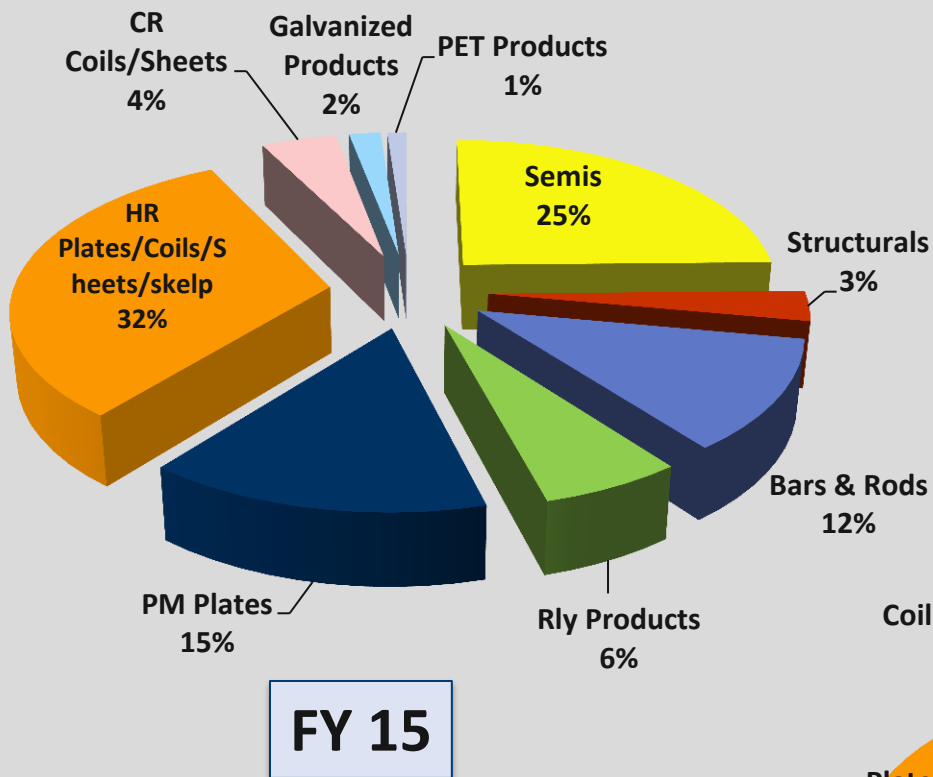


■ Capex during H1 FY16 was Rs. 2982 crore. Capex Plan for 2015-16 is Rs. 6500 crore

Capacity increase after Expansion

Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
	2014-15	After Expansion	2014-15	After Expansion	2014-15	After Expansion
BSP	5.1	7.5	4.8	7.0	4.3	6.6
DSP	2.3	2.5	2.1	2.2	2.0	2.1
RSP	3.1	4.5	2.9	4.2	2.5	4.0
BSL	4.2	5.8	3.8	4.6	3.4	4.2
ISP	0.6	2.9	0.1	2.5	0.1	2.4
VISL	0.1	0.3	0.0	0.2	0.0	0.2
ASP	-	-	0.1	0.5	0.1	0.4
SSP	-	-	0.1	0.2	0.4	0.3
TOTAL	15.4	23.5	13.9	21.4	12.8	20.2

Product Mix - Saleable Steel Production



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 (except 20-high Sendzimir Mill)

- Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	0.125	0.18
Saleable Steel	0.360	0.34

IISCO Steel Plant

Facilities Already Completed:

- New Coke Oven Battery (0.88 Mtpa, 2 x 37 ovens, 7 m tall) –
- Sinter Machines (3.88 Mtpa gross sinter production, 2X204 m²)
- Blast Furnace 4160 m³ volume (2.7Mtpa)
- 2 nos. of 150 T BOF Converters
- Wire Rod (0.5 Mtpa)
- Ore Handling Plant
- Coal, Coke Handling and Pipe Conveyor
- Base Mix Preparation Plant
- Coke Dry Cooling Plant
- 2X6 Strand Billet Casters (0.83 Mtpa each)
- 1X4 Strand Bloom-cum-Beam Blank Caster (0.83 Mtpa)
- Bar Mill (0.75 Mtpa)
- Universal Section Mill (0.6 Mtpa)

IISCO Steel Plant

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

Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	0.141	2.50
Saleable Steel	0.127	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 Converter
- 3 & 2**



Caster-1 & 2



Wire Rod Mill

Bokaro Steel Plant

Facilities Already 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):
 - PLTCM completed and commissioning tests successfully performed in Jul'15. Rolling is in progress.
 - In HDGL, threading completed.
- Up-gradation of HSM with augmentation of Roughing facility.

Facilities Likely to be Completed During FY 16:

- Replacement of Re-heating Furnace.
- Up-gradation of SMS II with Auxiliary facilities/Hot metal de-sulphurisation units.

Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	3.83	4.61
Saleable Steel	3.37	4.18

Current Progress of Expansion at Bokaro Steel Plant



**Coke Oven
battery-2**



**Blast
Furnace-2**



**PLTCM
Rolling**



Coil Packaging Line



**Skin Pass
Mill**



Bell Annealing Furnace

Bhilai Steel Plant

New Facilities Already Completed:

- Second Sinter Machine in Sinter Plant-3
- New Coke Oven Battery No. 11 (7 m tall, Capacity 0.881 mtpa)

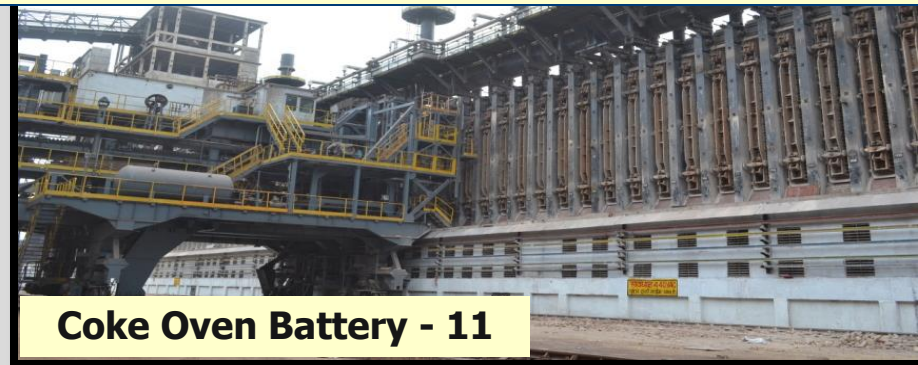
Facilities Likely to be Completed During FY H2 16:

- Blast Furnace 4060 m3.
- New Steel Melting Shop (SMS-3) with New Billet Casters/Billet-cum-Bloom Caster, Beam Blank Caster
- Universal Rail Mill
- Bar and Rod Mill

Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	4.81	7.0
Saleable Steel	4.33	6.56

Current Progress of Expansion at Bhilai Steel Plant



Current Progress of Expansion at Bhilai Steel Plant



Equipment erection at COB-11



2nd Sinter Machine



BF 8: Stoves



Universal Rail Mill

Rourkela Steel Plant

New Facilities Already Completed:

- New Coke Oven Battery -6 (7 m tall, 1 x 67 ovens)
- New Sinter Plant -3 (1 x 360m²)
- New Blast Furnace -5, 4060 m³ useful volume, (PCI started in July 2014).
- New 3rd Single Strand Slab Caster
- New Oxygen Plant 2X700 tpd on BOO basis
- New 3rd BOF (150 T) Convertor
- New 4.3 meter Wide Plate Mill

Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	2.79	4.20
Saleable Steel	2.55	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
Tapping**



BOF Converter



Slab Caster

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)
- New Dolomite Plant (300tpd)
- Bloom-cum-Round Caster 1X4 (0.75 Mtpa)
- New Medium Structural Mill (1.0 Mtpa);

Production (MTPA) :

Item	2014 -15 (Actual)	After Expansion
Crude Steel	2.06	2.20
Saleable Steel	1.97	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
2014-15	15.41	24.22	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>Three new Pellet Plants - 4 mtpa capacity at Gua, 2 mtpa capacity at RSP & 1 mtpa capacity at Dalli) have been planned for better utilisation of Iron Ore Fines</p> <p>In addition to the above, iron ore shall be mined from new mines at Rowghat, Chiria and Taldih</p>





Raw Materials

Mine	Existing Capacity (mtpa)	Capacity after ongoing expansion (mtpa)	Remarks
Kiriburu	5.50	5.50	Expansion at Kiriburu has already been completed whereas at Meghahatuburu is being ramped up to meet the requirement of the ongoing expansion plan. At Bolani, processing plant has upgraded to 7.5 mtpa and is under stabilization.
Meghahatuburu	5.00	6.50	
Bolani	5.50	10.00	
Gua	4.00	10.00	
Rajhara, Dalli	8.70	7.00*	
New Pellet Plants	New	7.0	*Depleted resources and quality constraints The entire requirement of the increased capacity shall be met through captive mines The timeline for mines expansion is expected to be in line with Steel Plants expansion New Pellet Plant shall use the existing reserve of fines incl. dumps & slimes at captive mines
Barsua, Kalta, Taldih	3.31	6.5	Environment clearance & FC received from MOEF
Rowghat	New	12.0	All statutory clearances have been received. MDO is being engaged.
Chiria	0.75	5.8	Stage-I Forest Clearance& EC has been obtained. Stage-II FC awaited from MoEF.




Raw Materials

Year	Hot Metal (mtpa)	Coking Coal Requirement (mtpa)	Linkages of Coking Coal
2014-15	15.41	15.1 (including purchased coke)	<ul style="list-style-type: none"> • Import Component – 86% • Over 90% of imported coal is sourced from Australia. • Indigenous: 14% • Domestic coal is largely sourced from Coal India Ltd. <p>SAIL has existing captive coking coal production of nearly 0.5 mtpa</p>
Post Expansion	23.46	21.0	<ul style="list-style-type: none"> • Long term / Quarterly contracts to cover 95% of Import requirements, w.e.f. FY 11 • MDO has been engaged for development of Tasra captive coal to produce 4 mtpa of ROM (2 mtpa washed coal) • Sitanala coal block allotted for a mine capacity of 0.30 mtpa of ROM (0.20 mtpa of washed coal) • New linkages / acquisitions are being explored




Major Joint Ventures – strategic initiatives

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 SAIL & MOIL Ferro Alloys (Pvt.) Ltd. formed with MOIL for production of Ferro-alloys at Bhilai. M/s S&T Mining Company Pvt. Ltd. formed with Tata Steel for developing coking coal mines in India.

Major Joint Ventures – strategic initiatives

FOCUS AREA	ALLIANCE PARTNER	REMARKS
ENERGY		<ul style="list-style-type: none"> JV with NTPC & DVC for operating & managing CPPs of Durgapur, Rourkela & Bhilai.
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.
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 – strategic initiatives

FOCUS AREA	ALLIANCE PARTNER	OBJECTIVE
SHIPPING		<ul style="list-style-type: none"> Joint Venture Company 'SAIL SCI Shipping Pvt. Ltd.' to cater to SAIL requirements of shipping imports of coal.
WAGON MANUFACTURE		<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
•	SMS	Steel Melting Shop
•	BOF	Basic Oxygen Furnace
•	THF	Twin Hearth Furnace
•	EAf	Electric Arc Furnace
•	BSP	Bhilai Steel Plant
•	DSP	Durgapur Steel Plant
•	RSP	Rourkela Steel Plant
•	BSL	Bokaro Steel Limited
•	SSP	Salem Steel Plant
•	VISL	Visvesvaraya Iron & Steel Plant
•	ASP	Alloy Steels Plant
•	CPLY	Corresponding Period Last Year
•	G.Cal/tcs	Giga Calories per tonne of Crude Steel
•	ISP	Integrated Steel Plant
•	HDGL	Hot Dip Galvanizing Line

•	FOB	Freight On Board
•	JPC	Joint Plant Committee
•	Kg/thm	Kilo Gram Per Tonne of Hot Metal
•	Tpd	Tonnes Per Day
•	MT	Million Tonne
•	Mtpa	Million Tonne Per Annum
•	EBIDTA	Earnings Before Interest Depreciation ,Taxes & Ammortization.
•	PAT	Profit After Tax
•	PBT	Profit Before Tax
•	RINL	Rashtriya Ispat Nigam Limited
•	CS	Crude Steel
•	CDI	Coal Dust Injection
•	CC	Continuous Casting
•	BOO	Build-Own-Operate
•	Gol	Government of India
•	MOEF	Ministry of Environment & Forests

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