

STEEL AUTHORITY OF INDIA LIMITED



Performance Highlights

H1 & Q2

FY 2017-18



PERFORMANCE HIGHLIGHTS : H1 FY2017-18



FINANCIAL PERFORMANCE

- ❖ Net Sales : Rs 24898 Crore
- ❖ EBITDA : Rs 989 Crore
- ❖ PBT : Rs (-) 2028 Crore
- ❖ PAT : Rs (-) 1340 Crore

PRODUCTION & SALES PERFORMANCE

- ❖ Hot Metal Production : 7.608 MT
- ❖ Crude Steel Production : 7.135 MT
- ❖ Saleable Steel Production : 6.859 MT
- ❖ Semis component in production : 18.7% of saleable steel
- ❖ Value Added Production : 2.981 MT
- ❖ Production through concast route : 6.10 MT
- ❖ Saleable Steel Sales : 6.572 MT

PERFORMANCE HIGHLIGHTS : Q2 FY2017-18



FINANCIAL PERFORMANCE

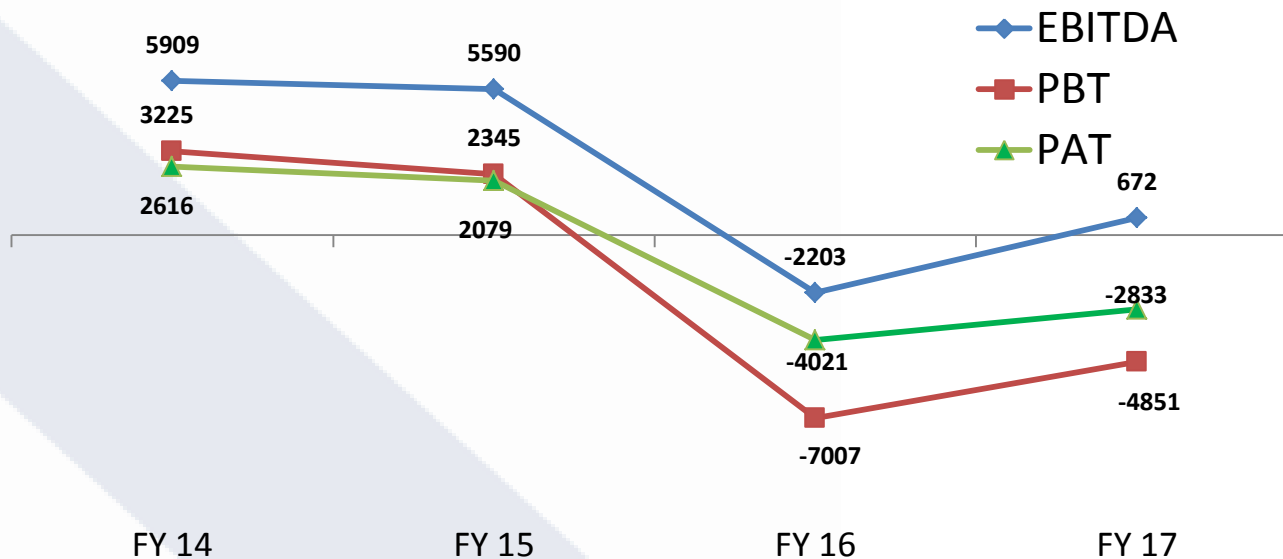
- ❖ Net Sales : Rs 13442 Crore
- ❖ EBITDA : Rs 966 Crore
- ❖ PBT : Rs (-) 740 Crore
- ❖ PAT : Rs (-) 539 Crore

PRODUCTION & SALES PERFORMANCE

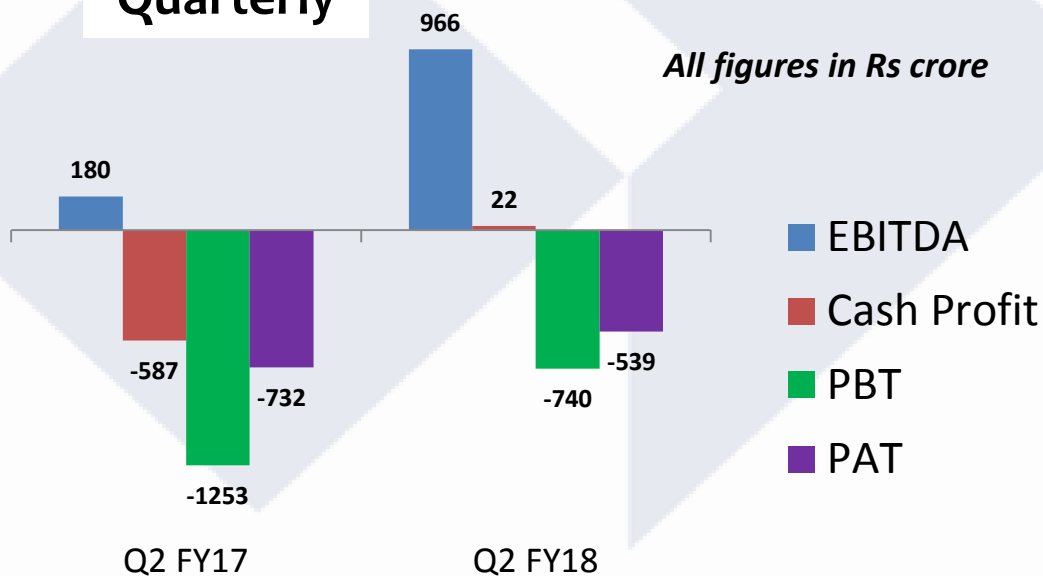
- ❖ Hot Metal Production : 4.081 MT
- ❖ Crude Steel Production : 3.831 MT
- ❖ Saleable Steel Production : 3.658 MT
- ❖ Semis component in production : 19.8% of saleable steel
- ❖ Value Added Production : 1.61 MT
- ❖ Production through concast route : 3.27 MT
- ❖ Saleable Steel Sales : 3.544 MT

FINANCIAL PERFORMANCE

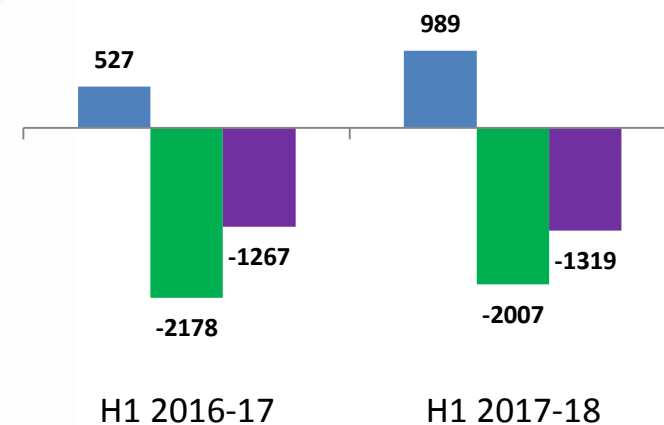
Annual Profit Trend



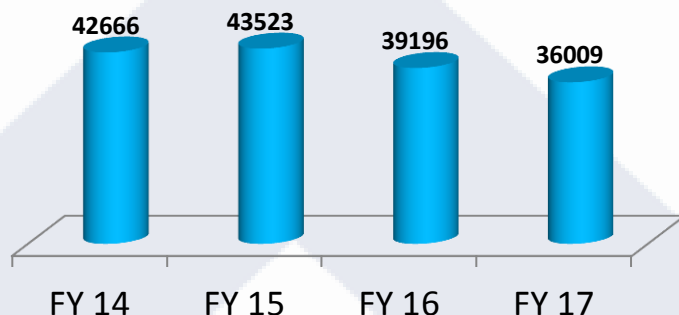
Quarterly



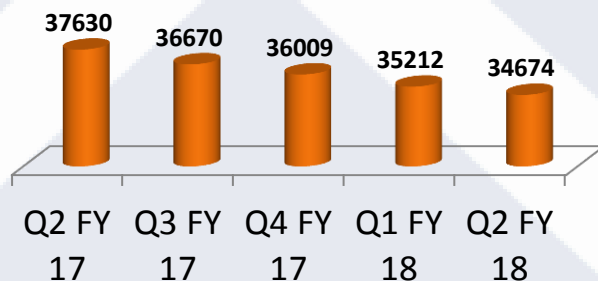
Half Yearly



Annual Net Worth

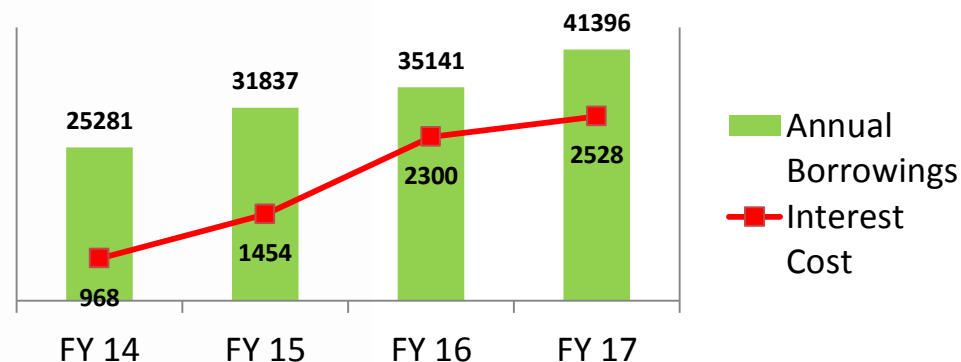


Quarterly Net Worth

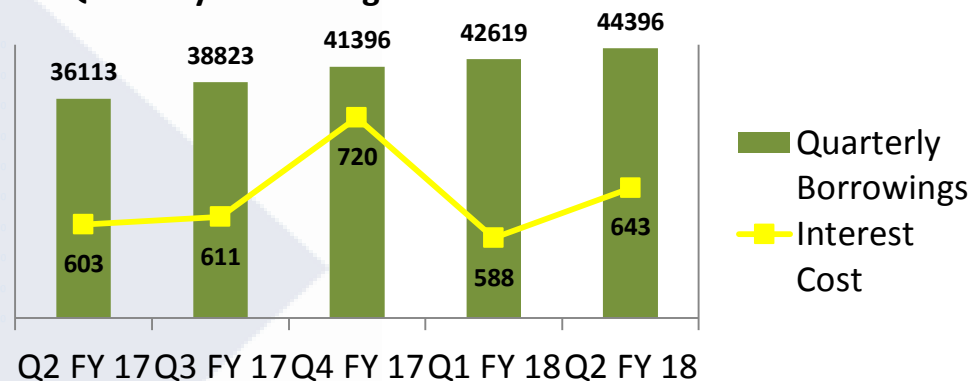


All figures in Rs. crore

Annual Borrowings & Interest cost



Quarterly Borrowings & Interest cost



Debt Equity Ratio

| 31/03/2015 | 31/03/2016 | 30/09/2016 | 31/03/2017 | 30/06/2017 | 30/09/2017 |
|------------|------------|------------|------------|------------|------------|
| 0.73 | 0.90 | 0.96 | 1.15 | 1.21 | 1.28 |

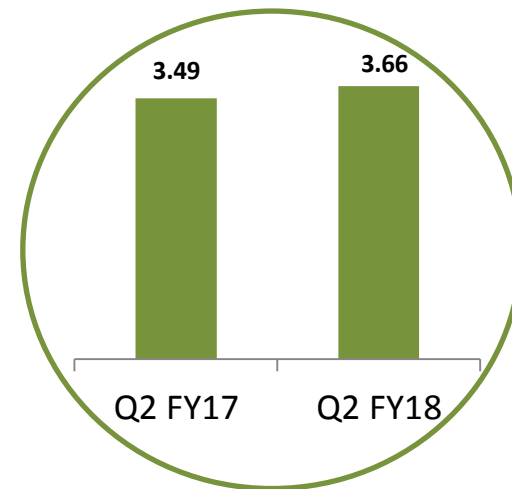
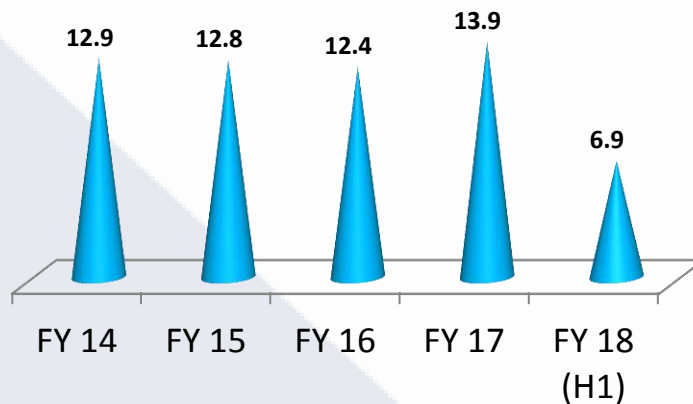
FINANCIAL PERFORMANCE

| Rs. Crore (INDAS Compliant figures) | H1 FY 18 | Q2 FY 18 | H1 FY 17 | Q2 FY 17 |
|--|-----------------|-----------------|-----------------|-----------------|
| | | | | |
| Net Sales | 24898 | 13442 | 20162 | 11080 |
| EBITDA | 989 | 966 | 527 | 192 |
| Depreciation | 1457 | 762 | 1266 | 666 |
| Finance Cost | 1231 | 643 | 1197 | 603 |
| PBT Before Exceptional Items | -1720 | -443 | -1936 | -1077 |
| Exceptional/Abnormal Items (VRS/Suspended Operations) | 308 | 298 | 242 | 176 |
| PBT After Exceptional Items | -2028 | -740 | -2178 | -1253 |
| Tax | -687 | -201 | -911 | -521 |
| Profit After Tax | -1340 | -539 | -1267 | -732 |

PRODUCTION PERFORMANCE

All figures In Million Tonne

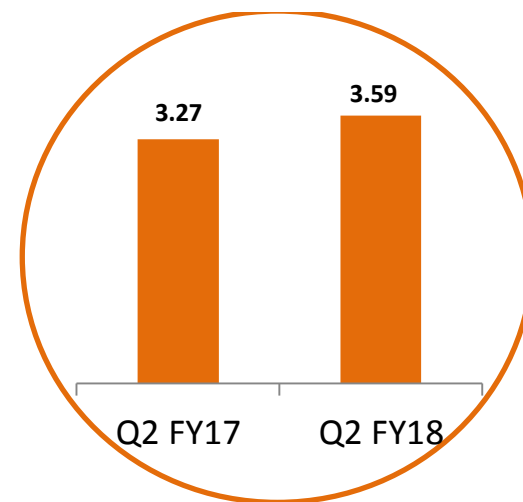
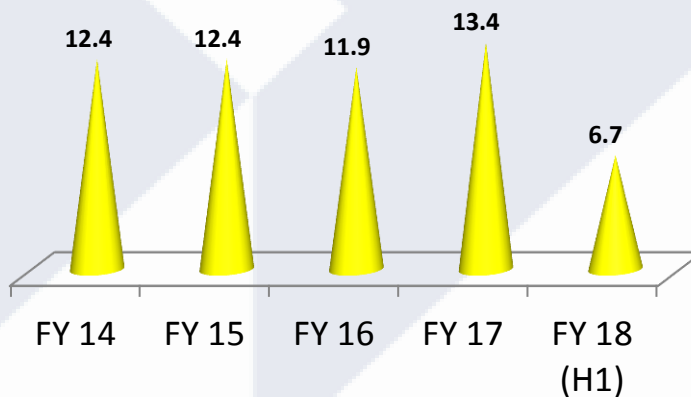
SALEABLE STEEL PRODUCTION (incl. SSPs)



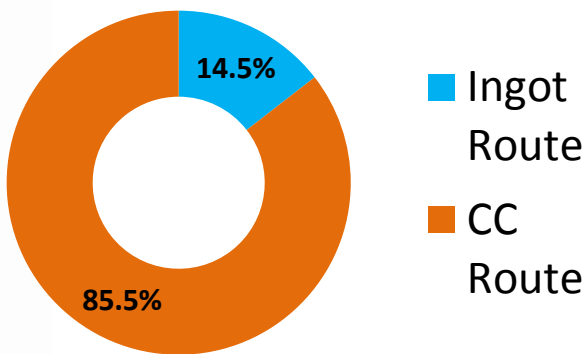
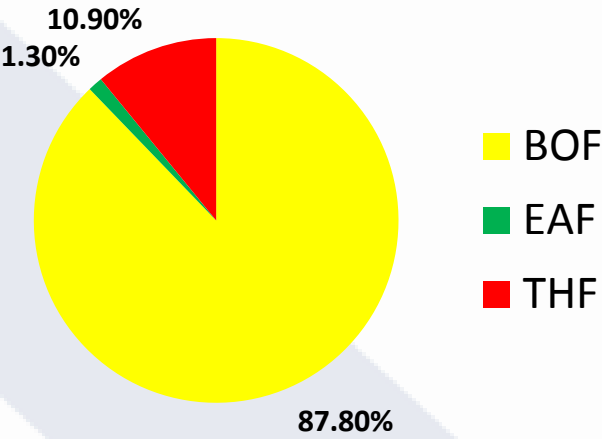
Annual

Quarterly

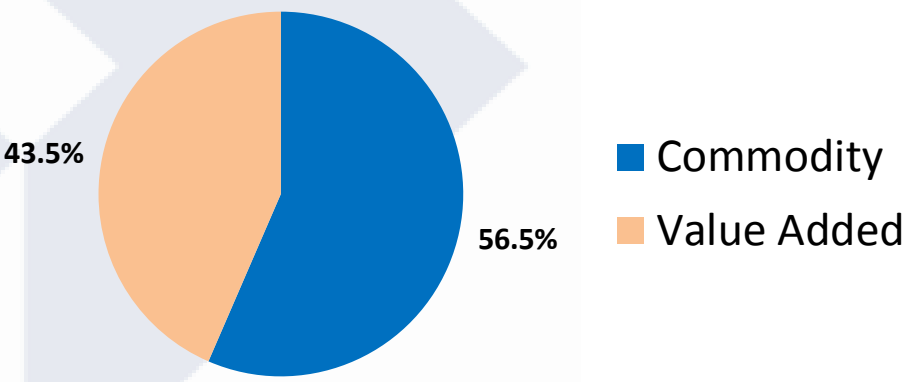
SALEABLE STEEL PRODUCTION (5 ISPs)



**CRUDE STEEL
PRODUCTION
BY PROCESS**

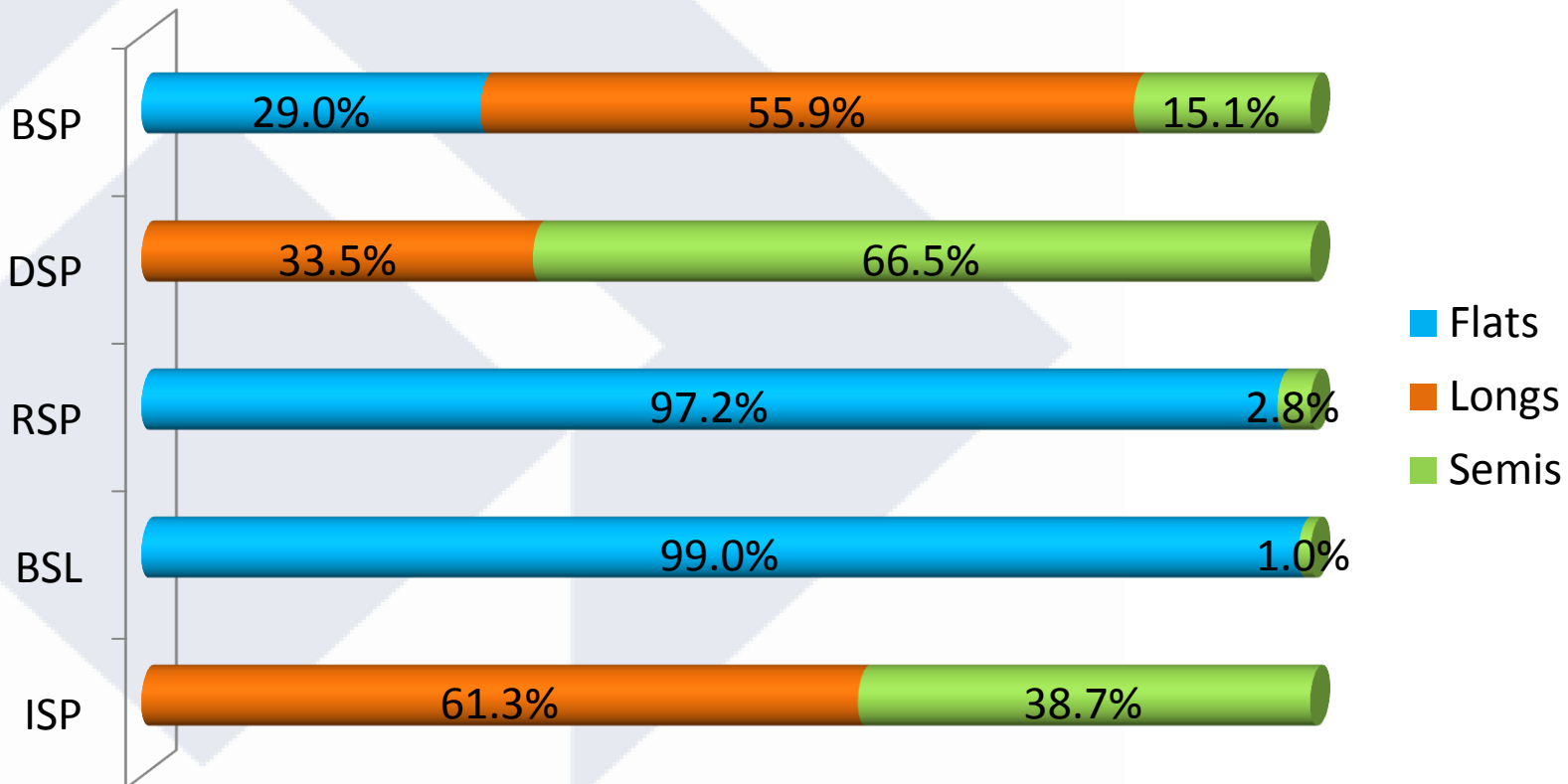
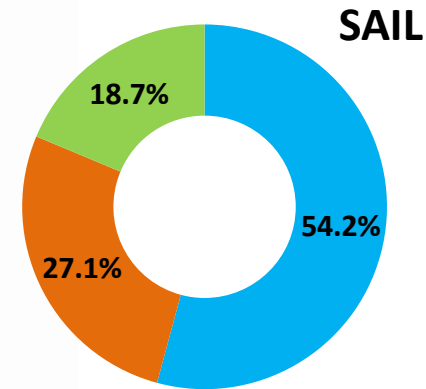


**SALEABLE STEEL
PRODUCTION
BY PROCESS
(5 ISPs)**



PRODUCTION PERFORMANCE : FY 2016-17

PRODUCT MIX : 5 ISPs

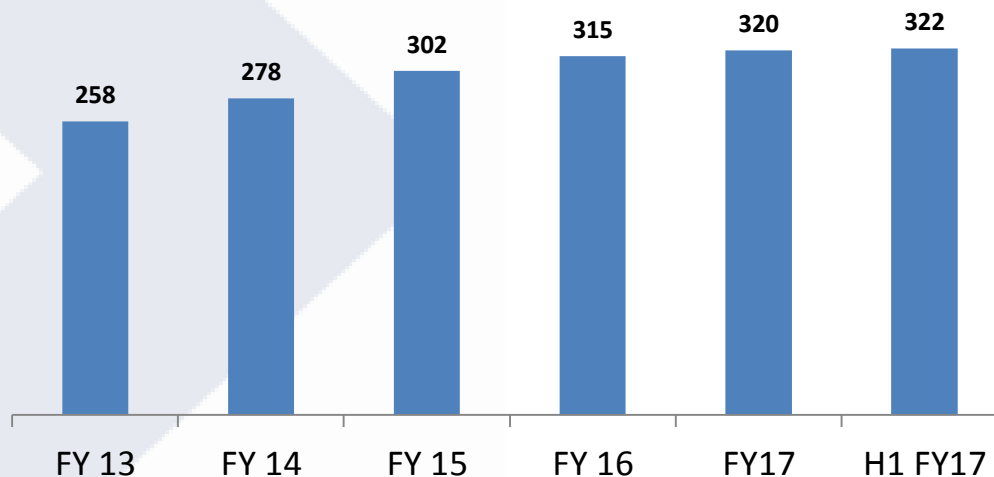


PRODUCTION PERFORMANCE

MAJOR TECHNO-ECONOMIC PARAMETERS

| Parameter | H1 2017-18 | Q1 2017-18 |
|-----------------------------------|------------|------------|
| Coke Rate (kg/thm) | 464 | 470 |
| Fuel Rate (kg/tcs) | 561 | 562 |
| Sp. Energy Consumption (GCal/TCS) | 6.57 | 6.72 |
| BF Productivity (T/m3/day) | 1.66 | 1.60 |

LABOUR PRODUCTIVITY

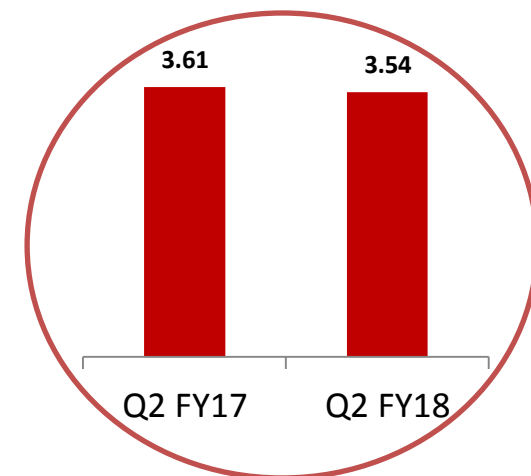
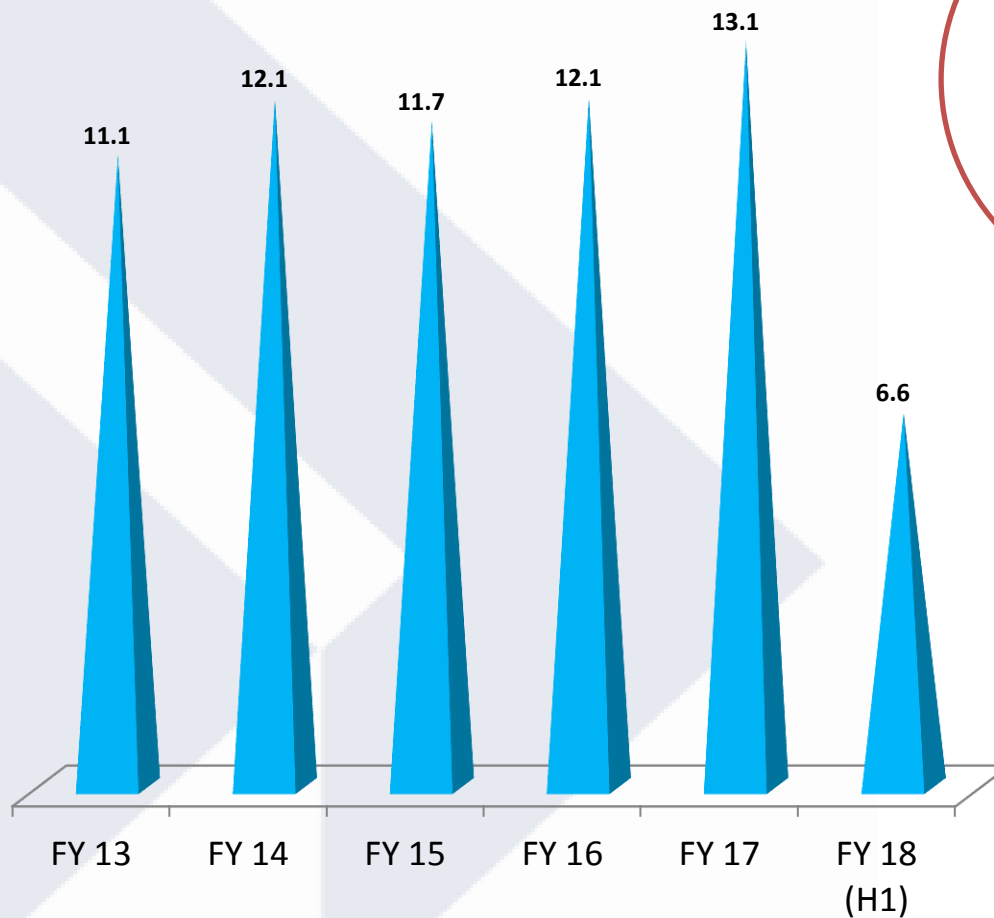


Total manpower as on 01.10.2017: **79,601**

SALES PERFORMANCE

SALEABLE STEEL SALES

(Million Tonne)

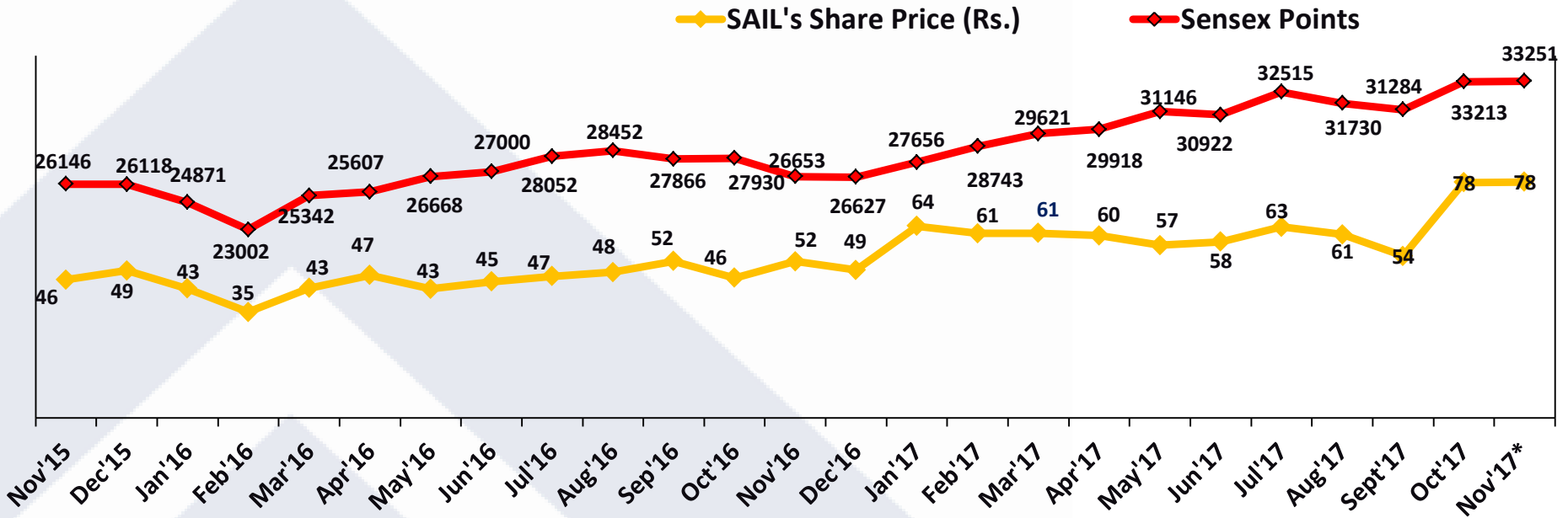


Quarterly

SAIL STOCK PRICE MOVEMENT



सेल SAIL



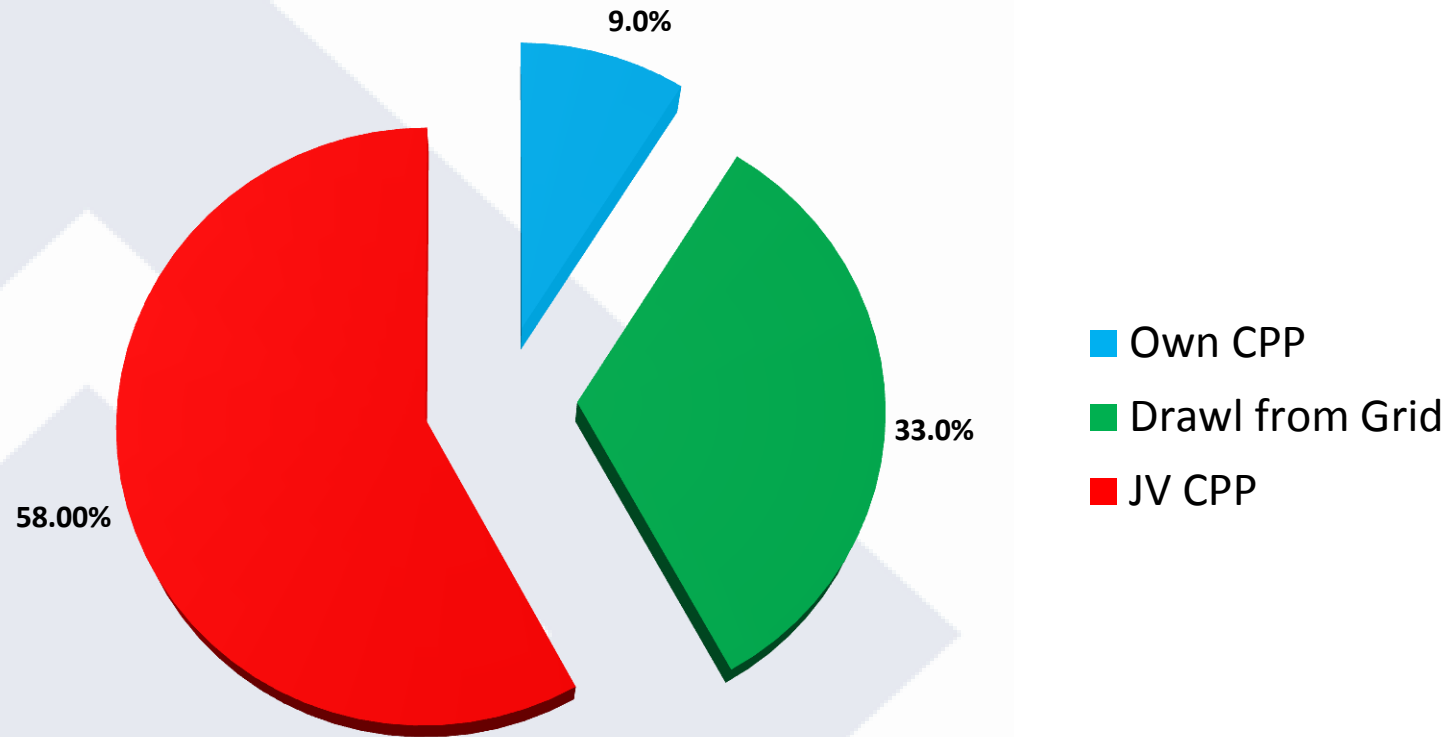
Closing Share Price and Sensex as on the last day of the month

* As on November 9, 2017

DIVIDEND PAYOUT

| | Interim (%) | Final (%) | Total (%) | Dividend (Rs. crore) | Dividend Tax (Rs. crore) |
|-------|-------------|-----------|-----------|----------------------|--------------------------|
| FY 17 | - | - | - | - | - |
| FY16 | - | - | - | - | - |
| FY15 | 17.5 | 2.5 | 20 | 826 | 165 |
| FY14 | 20.2 | - | 20.2 | 834 | 142 |
| FY13 | 16 | 4 | 20 | 826 | 134 |
| FY12 | 12 | 8 | 20 | 826 | 134 |

POWER CONSUMPTION –FY 2016-17



SAIL's MODERNISATION & EXPANSION PLAN

| Million Tonne | Actual Production 2016-17 | Capacity After On-going Expansion |
|----------------|------------------------------|--------------------------------------|
| Crude Steel | 14.495 | 21.4 |
| Saleable Steel | 13.868 | 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

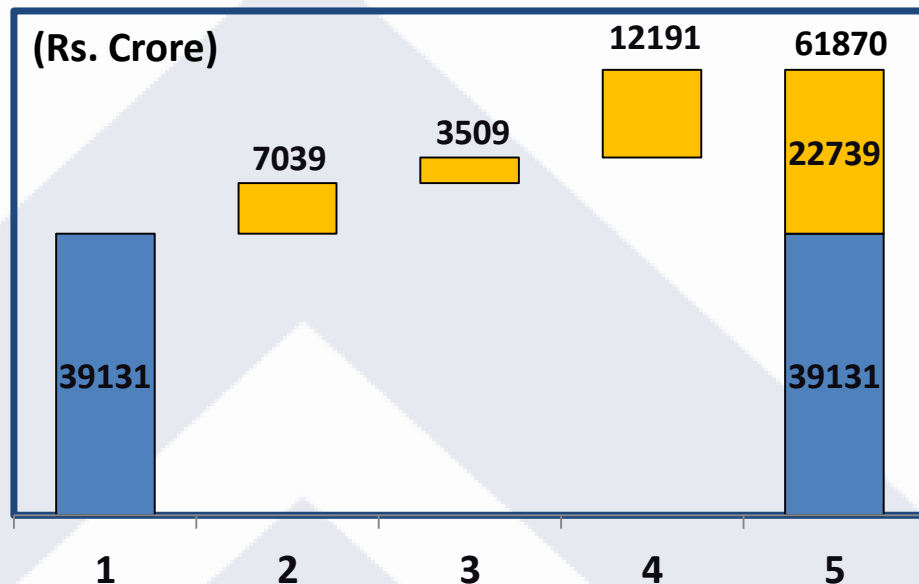
EXPECTED OUTCOME

- 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)

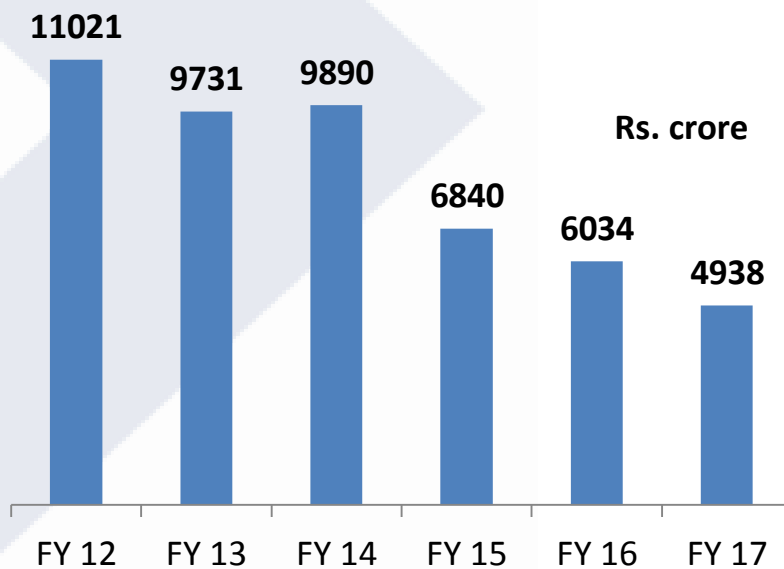


- 1 Expansion of existing capacity
- 2 Value-addition / Product-mix improvement
- 3 Technological up gradation / Modernization
- 4 Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

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 FY18 is
Rs.3500 Crore



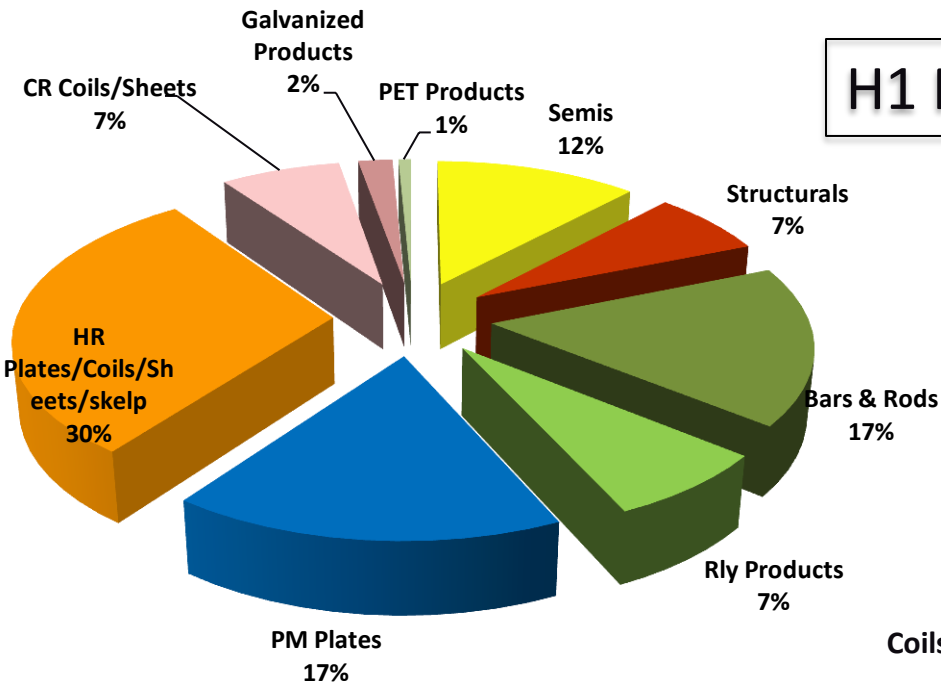
Capex during H1
FY 17-18 was Rs
2342 crore

CAPACITY AFTER EXPANSION

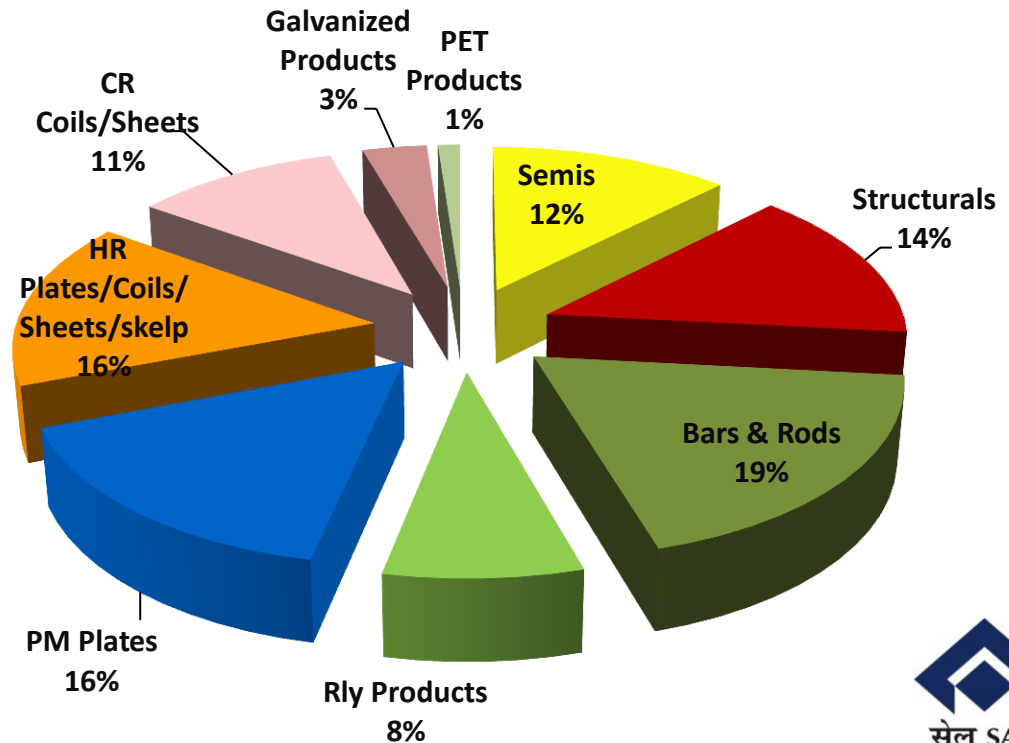
| Plant | Hot Metal (MTPA) | | Crude Steel (MTPA) | | Saleable Steel (MTPA) | |
|--------------|------------------|-----------------|--------------------|-----------------|-----------------------|-----------------|
| | 2016-17 | After Expansion | 2016-17 | After Expansion | 2016-17 | After Expansion |
| BSP | 5.0 | 7.5 | 4.7 | 7.0 | 4.0 | 6.6 |
| DSP | 2.3 | 2.5 | 2.0 | 2.2 | 1.9 | 2.1 |
| RSP | 3.1 | 4.5 | 2.9 | 4.2 | 2.7 | 4.0 |
| BSL | 3.4 | 5.8 | 3.2 | 4.6 | 3.4 | 4.2 |
| ISP | 1.8 | 2.9 | 1.4 | 2.5 | 1.3 | 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 | 15.7 | 23.5 | 14.5 | 21.4 | 13.9 | 20.2 |

PRODUCT MIX POST EXPANSION – SALEABLE STEEL

H1 FY 18



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
 - 20-high Sendzimir Mill

Production (MTPA) :

| Item | 2016-17 (Actual) | After Expansion |
|----------------|------------------|-----------------|
| Crude Steel | 0.11 | 0.18 |
| Saleable Steel | 0.37 | 0.34 |

MODERNISATION & EXPANSION PLAN - IISCO STEEL PLANT

Facilities Completed:

- Coal, Coke Handling and Pipe Conveyor
- Ore Handling Plant
- Base Mix Preparation Plant
- New Coke Oven Battery (0.88 Mtpa, 2 x 37 ovens, 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 (0.5 Mtpa)
- Bar Mill (0.75 Mtpa)
- Universal Section Mill (0.6 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 | 2016 -17 (Actual) | After Expansion |
|----------------|-------------------|-----------------|
| Crude Steel | 1.397 | 2.50 |
| Saleable Steel | 1.339 | 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

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) except HDGL
- Up-gradation of HSM with augmentation of Roughing facility (4.5 MTPA).

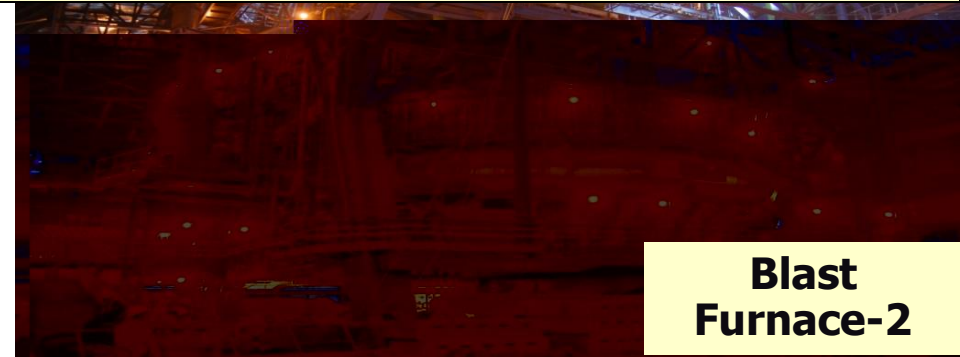
Production (MTPA) :

| Item | 2016 -17 (Actual) | After Expansion |
|----------------|-------------------|-----------------|
| Crude Steel | 3.154 | 4.61 |
| Saleable Steel | 3.372 | 4.18 |

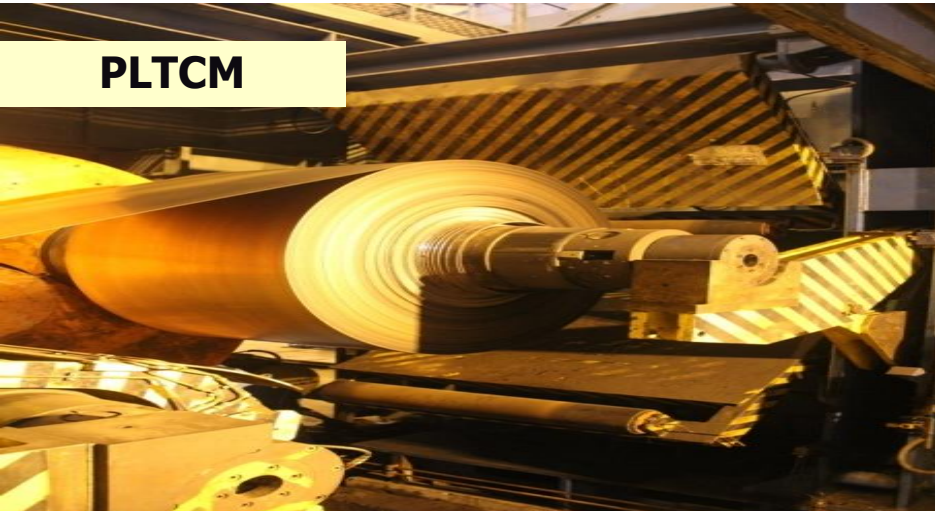
Current Progress of Expansion at Bokaro Steel Plant



**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)
- Rail Welding Line
- Bar Line of Bar and Rod Mill (0.9 MTPA)

Facilities Likely to be Completed During FY 17-18:

- Blast Furnace 4060 m3.
- New Steel Melting Shop (SMS-3; 4.13 MTPA) with New Billet Casters (2X6)/Billet-cum-Bloom Caster (1X6), Beam Blank Caster (1X3)

Production (MTPA) :

| Item | 2016 -17 (Actual) | After Expansion |
|----------------|-------------------|-----------------|
| Crude Steel | 4.737 | 7.0 |
| Saleable Steel | 4.006 | 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, 4060 m³ useful volume
- 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 | 2016 -17 (Actual) | After Expansion |
|----------------|-------------------|-----------------|
| Crude Steel | 2.932 | 4.20 |
| Saleable Steel | 2.742 | 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 | 2016 -17 (Actual) | After Expansion |
|----------------|-------------------|-----------------|
| Crude Steel | 2.041 | 2.20 |
| Saleable Steel | 1.932 | 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 |
|----------------|------------------|-----------------------------|---|
| 2016-17 | 15.73 | 25.332 | 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 | Expansion at Kiriburu has already been completed whereas Meghathaburu is being ramped up to meet the requirement of the ongoing expansion plan. |
| Meghathaburu | 5.00 | 6.50 | |
| Bolani | 7.50 | 10.00 | |
| Gua | 4.00 | 10.00 | 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. |
| Rajhara, Dalli | 8.70 | 7.00** | |
| New Pellet Plants | New | 7.00 | |
| Barsua, Kalta, Taldih | 6.00 | 6.50 | **Depleted resources and quality constraints New Pellet Plants shall use the existing reserve of fines incl. dumps & slimes at captive mines |
| Rowghat | New | 12.00 | Environment clearance obtained & FC under process for ML162 lease. Iron ore production to the tune of 1mtpa started at Taldih in Nov, 2016. |
| Chiria | 0.75 | 5.80 | All statutory clearances have been received. MDO has been engaged and LOA issued to MDO on 1 st August 2017. |
| | | | Stage-I Forest Clearance & EC has been obtained. 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 |
|----------------|------------------|--------------------------------|---|
| 2016-17 | 15.73 | 15.32 | <ul style="list-style-type: none"> • Import Component – 81.05% • Over 70% of imported coal is sourced from Australia. • Indigenous: 18.95% • Domestic coal is largely sourced from Coal India Ltd. • SAIL has existing captive clean coking coal production of nearly 0.7 mtpa |
| Post Expansion | 23.46 | 19.5 | <ul style="list-style-type: none"> • Long term / Quarterly contracts cover 95% of Import requirements • MDO has been engaged for development of Tasra captive coal mine to produce 4 mtpa of ROM (1.8 mtpa washed coal) • Sitanala coal block allotted for a mine capacity of 0.30 mtpa of ROM (0.20 mtpa of washed coal) • Parbatpur coking coal mine allocation letter issued in March 2016 • New linkages / acquisitions are being explored |



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 |
| • | BSPL | Bhilai Steel Plant | • | Mtpa | Million Tonne Per Annum |
| • | DSP | Durgapur Steel Plant | • | EBIDTA | Earnings Before Interest Depreciation ,Taxes & Amortization. |
| • | RSP | Rourkela Steel Plant | • | PAT | Profit After Tax |
| • | BSL | Bokaro Steel Limited | • | PBT | Profit Before Tax |
| • | SSP | Salem Steel Plant | • | RINL | Rashtriya Ispat Nigam Limited |
| • | VISL | Visvesvaraya Iron & Steel Plant | • | CS | Crude Steel |
| • | ASP | Alloy Steels Plant | • | CDI | Coal Dust Injection |
| • | CPLY | Corresponding Period Last Year | • | CC | Continuous Casting |
| • | G.Cal/tcs | Giga Calories per tonne of Crude Steel | • | BOO | Build-Own-Operate |
| • | ISP | Integrated Steel Plant | • | GoI | Government of India |
| • | HDGL | Hot Dip Galvanizing Line | • | MOEF | Ministry of Environment & Forests |
| • | CR | Cold Rolled | | | |
| • | HR | Hot Rolled | | | |

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