

IRON & STEEL AND SCRAP



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IRON & STEEL AND SCRAP

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**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES**

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9 Iron & Steel and Scrap

Iron & steel is decidedly the vital component of a country's economy and is considered amongst the driving force of modernisation. The level of per capita consumption of steel is treated as one of the important indicators of socio-economic development and living standards in any country. Steel continues to be the foremost of engineering materials, which not only is environment-friendly but also is recyclable.

The finished steel production in India has grown from a mere 1.1 million tonnes in 1951 to 101.80 million tonnes in 2016-17. The contribution of non-alloy steel segment stood at 91.70 million tonnes, while the rest was contributed by alloy steel. The growth in the Steel Sector in the early decades after independence was mainly in the Public Sector units. However, following the adoption of new economic policy and subsequent deregulation and decontrol of Indian Iron & Steel Sector, the 1990s witnessed accelerated growth in the Private Sector, catapulting its share of steel production from 45% in 1992-93 to 85.40% in 2016-17.

Steel exports from India began in 1964. Exports in the first five years were mainly as a result of low demand in the domestic Iron and Steel market. Exports subsequently declined due to revival of domestic demand. India once again started exporting steel in 1975 which subsequently registered a slump due to rising domestic demand. Post liberalisation, a rejuvenation in the Steel Sector resulted in large-scale exports of iron and steel. In 2016-17, India's finished steel exports & imports were at 8.24 & 7.23 million tonnes, respectively. Though the country's production of iron & steel is sufficient to meet the domestic demand, it imports mainly finished/semi-finished steel and iron & steel (scrap) to meet specific requirements and supply of essential grades.

Liberalisation of the Indian Steel Sector

The Government's new economic policies have opened up opportunities for expansion of the Steel Industry. With a view to accelerating growth in the Steel Sector, the Government since

1991 has been initiating and implementing a number of policy measures. These measures have impacted the Indian Steel Sector positively in terms of modernisation and growth.

NATIONAL STEEL POLICY

The New National Steel Policy-2017 has been approved on 03.05.2017 and some of the Highlights of the National Steel Policy 2017 are enumerated below:

1. The Indian steel sector has grown rapidly over the past few years and presently it is the third largest steel producer globally, contributing to about 2% of the country's GDP. India has also crossed 100 MT mark for production for sale in 2016-17.

2. The New Steel Policy, 2017 aspires to achieve 300MT of steel making capacity by 2030. This would translate into additional investment of ₹10 lakh crore by 2030-31.

3. The Policy seeks to increase consumption of steel and the major segments that could influence the consumption are Infrastructure, Automobiles and Housing. New Steel Policy seeks to increase per capita steel consumption to the level of 160 kg by 2030 from the existing level of around 60 kg.

4. Potential of MSME Steel Sector has been recognised. Policy stipulates encouragement and adoption of energy efficient technologies in the MSME Steel Sector to improve the overall productivity and reduce energy intensity.

5. Steel Ministry will facilitate R&D in the Sector through the establishment of Steel Research and Technology Mission of India (SRTMI). The initiative is aimed to spearhead R&D of national importance in Iron & Steel Sector utilising tripartite synergy amongst Industry, national R&D laboratories and academic institutions.

6. Ministry through policy measures will ensure availability of raw materials like iron ore, coking coal and non-coking coal, natural gas etc. at competitive rates.

7. With the roll out of the National Steel Policy-2017, it is envisaged that the Industry will be steered in creating an environment for promoting domestic steel and thereby ensuring a scenario where production meets the anticipated pace of growth in consumption, through a technologically advanced and globally competitive Steel Industry. This will be facilitated by Ministry of Steel, in coordination with relevant Ministries, as may be required.

The principal objectives that the National Steel Policy 2017 aims to achieve are the following:

- a) Build a globally competitive industry with a crude steel capacity of 300 MT by 2030-31.
- b) Increase per Capita Steel Consumption to 160 kg by 2030-31.
- c) To domestically meet entire demand of high-grade automotive steel, electrical steel, special steels and alloys for strategic applications by 2030-31.
- d) Increase domestic availability of washed coking coal so as to reduce import dependence on coking coal to 50% by 2030-31.
- e) To be net exporter of steel by 2025-26.
- f) Encourage industry to be a world leader on energy and raw material efficient steel production by 2030-31, in a safe and sustainable manner.
- g) Develop and implement quality standards for domestic steel products.

Expected impact/outcome of NSP 2017

- (a) India to be world leader in energy efficiency and sustainability.
- (b) Cost-effective and quality steel destination.
- (c) Attain global standards in Industrial Safety & Health.

(d) Substantially reduce the carbon foot-print of the industry.

(e) Domestically meet the entire demand of high grade.

STRUCTURE AND ROLE OF INDIAN STEEL INDUSTRY

India is currently the 3rd largest producer of crude steel in the world. Earlier, as per the Notifications released by Ministry of Steel dated 12.12.2013 and 24.04.2015, a steel plant had been classified on the basis of process route/ technology adopted and on the basis of size/ capacity. The classification was Primary steel producers, Integrated steel producers, Secondary steel producers and Other steel producers. Subsequently, the guidelines for classification have been revised vide Notification dated 12.05.2016, and as per the latest classification, steel producers with their registered office addresses will be listed plant-wise & location-wise in accordance with the crude steel production capacity. The earlier classification along with process route adopted for iron/steel making as 'Integrated steel plants', 'Primary steel producers', 'Secondary steel producers', 'Main producers', 'Major producers' and 'Others' stands to be withdrawn as per the latest notification.

In 2016-17, the production of pig iron was 9.97 million tonnes and the percentage share of Private Sector (excluding SAIL) was about 96%.

In the year 2016-17, the production of sponge iron was 28.76 million tonnes. The production of crude steel was 97.94 million tonnes and finished steel was 101.80 million tonnes.

The Secondary Steel Sector constitutes Electric Arc Furnace/Induction Furnace, pig iron/ sponge iron units, re-rolling units, HR units, CR units, galvanised/colour coated units, tin plate units, wire-drawing units, etc. for producing either semi-finished or finished steel.

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The important iron & steel units in India are Steel Authority of India, Rashtriya Ispat Nigam Ltd, Tata Steel, Essar Steel, JSW Steel, Jindal Steel & Power Ltd, Bhushan Steel Ltd and Bhushan Power & Steel Ltd as well as large number of Mini Steel Plants based on Electric Furnaces & Energy Optimising Furnaces (EOF). Besides the steel producing units, there are a large number of Sponge Iron Plants, Mini Blast Furnace units, Hot & Cold Rolling Mills & Galvanising/Colour Coating units which are spread across the country.

The structure of the Indian Steel Industry in 2016-17 is furnished in Table-1. Production of iron & steel, crude steel, pig iron and finished steel for sale (alloy/ non-alloy) by SAIL, TSL, RINL,

ESL, JSWL, JSPL and other producers along with production of crude steel from oxygen route, electric arc furnace route and induction furnace route during the year 2012-13 to 2016-17 have been reflected in Table-2. Also, the production of sponge iron through gas-based & coal-based units during the year 2012-13 to 2016-17 is also provided in Table-2. The production of iron & Steel by Public and Private Sectors during 2012-13 to 2016-17 is furnished in Table-3. The details on plant-wise capacity and production of hot metal and crude/liquid steel are listed out in Table-4. Table-5 elucidates the production of crude/liquid steel by BOF and EAF/IF routes. Prices of steel are provided in Table-6.

Table – 1 : Structure of the Indian Steel Industry, 2016-17

(Capacity/Production: In million tonnes)

Sector	Type of units	Total Annual capacity	Production	
			2015-16	2016-17 (P)
Crude Steel	SAIL, TSL, RINL, ESL, JSWL, JSPL	67.77	47.42	55.49
	Other Producers	60.51	40.37	42.45
	Public Sector	23.82	17.92	18.46
	Private Sector	104.46	71.87	79.48
	Pig iron/ Hot Metal	42.51	9.22 ¹	9.39 ¹
	Sponge Iron	48.63	22.43	28.76
	Non-Flat Products	NA	41.91	44.01
	Flat Products	NA	40.81	49.34
	Total finished steel (Non-alloy)	NA	82.72	93.35
	Total finished steel (Alloy/Stainless)	NA	8.26	8.45
	Total finished steel (Alloy+Non alloy)	NA	90.98	101.80

Source: Ministry of Steel, Annual Report, 2016-17 & 2017-18.

¹ Production for sale only

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Table – 2 : Production of Iron and Steel, 2012-13 to 2016-17

(In '000 tonnes)

Item/producers	2012-13	2013-14	2014-15	2015-16	2016-17
I. Pig Iron : Total	6870	7950	9694	9227	9388
SAIL, TSL, RINL, ESL, JSWL, JSPL	674	552	920	1186	799
Other Producers	6196	7398	8774	8041	8589
II. Sponge Iron : Total	23007	22872	24243	22427	28762
Gas Based	3940	2683	2354	2440	4854
Coal Based	19067	20189	21889	19987	23908
III. Crude Steel : Total	78416	81694	88979	89790	97936
Integrated steel Plants	43036	44241	46083	47421	55486
Oxygen route	32999	35067	36610	36174	39711
EAF Units	10037	9174	9473	11247	15775
Other Producers	35380	37453	42896	42369	42450
Oxygen route	350	455	961	2221	2291
EAF Units (including ores & MBF/EOF)	9345	9419	13652	13352	13187
Induction Furnaces	25685	27579	28283	26796	26972
IV. Finished Steel for Sale (Alloy steel/ Non-alloy) : Total	81682	87675	92157	90980	101806
SAIL, TSL, RINL, ESL, JSWL, JSPL	42466	45160	46820	48527	57698
Other Producers	47156	50417	53862	54376	58213
Less: Inter Plant Transfer/Own Consumption	7940	7902	8525	11923	14105

Figures rounded off.

Source: Ministry of Steel, Annual Report, 2017-18

**Table – 3 : Production of Iron and Steel, 2012-13 to 2016-17
(By Sectors)**

(In '000 tonnes)

Item/producers	2012-13	2013-14	2014-15	2015-16	2016-17
I. Pig Iron (for Sale) : Total	6870	7950	9694	9227	9387
Public Sector	674	552	920	732	573
Private Sector	6196	7398	8774	8495	8814
II. Crude/Liquid Steel : Total	78416	81694	88979	89790	97936
Public Sector	16482	16777	17205	17920	18456
Private Sector	61934	64916	71774	71870	79480
III. Finished Steel for Sale (Alloy/Non-alloy): Total	81682	87675	92157	90980	101806
Public Sector	12819	13439	12832	12977	14866
Private Sector	68863	74236	79325	78003	86940

Figures rounded off.

Source: Ministry of Steel, Annual Report, 2017-18.

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**Table – 4 : Capacity and Production of Hot Metal and Crude/Liquid Steel, 2015-16 and 2016-17
(By Principal Producers)**

(In '000 tonnes)

Unit	Annual installed capacity		Production			
	Hot metal	Crude/Liquid steel	Hot metal		Crude/Liquid steel	
			2015-16	2016-17	2015-16	2016-17
Public Sector						
Bokaro Steel Plant (Jharkhand)	4585	4360	3700	3410	3392	3154
Bhilai Steel Plant (Chhattisgarh)	4700	3925	5317	5041	5058	4737
Rourkela Steel Plant (Odisha)	2120	4400	3042	3094	2730	2932
Durgapur Steel Plant (West Bengal)	2088	1802	2170	2318	1975	2042
IISCO Steel Plant, Burnpur (West Bengal)	550	2500	1431	1810	871	1394
Visvesvaraya Iron & Steel Plant (Karnataka)	205	118	60	54	42	39
Salem Steel Plant (Tamil Nadu)	–	180	–	–	120	108
Alloy Steel Plant, Durgapur (West Bengal)	–	234	–	–	91	88
Rashtriya Ispat Nigam Ltd (Andhra Pradesh)	3400	6300	3975	4043	3641	3962
Private Sector						
JSW Steel Ltd (Karnataka)	–	10000	–	–	8385	9655
Tata Steel Ltd (Jharkhand)	–	12500	10655	13059	9960	11688
JSW Ispat Steel Ltd /JSW Steel Ltd (Maharashtra)	–	5000	–	–	4294	6851
Essar Steel Ltd (Gujarat)	–	10000	-	-	3685	5391
Jindal Steel & Power Ltd (Chhattisgarh)	1670	8600	–	–	3177	3445
Jindal Stainless Ltd	–	1800	–	–	1258	1391
Bhushan Steel Ltd	–	5600	–	–	3078	5601
Bhushan Power & Steel Ltd (Odisha)	–	2500	–	–	1832	3324

Figures rounded off.

Source: Ministry of Steel, Annual Report, 2017-18.

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**Table – 5 : Production of Crude/Liquid Steel, 2013-14 to 2016-17
(By Route)**

	(In '000 tonnes)			
Route/plant	2013-14	2014-15	2015-16	2016-17
All Routes: (A+B) Total	81694	88979	89790	97936
A. Oxygen Route : Total	35522	37571	38395	42002
Bhilai Steel Plant (Chhattisgarh)	5136	4807	5058	4737
Durgapur Steel Plant (West Bengal)	2019	2063	1975	2042
Rourkela Steel Plant (Odisha)	2291	2792	2730	2932
Bokaro Steel Plant (Jharkhand)	3776	3831	3392	3154
IISCO Steel Plant (West Bengal)	127	141	871	1394
Salem Steel Plant (Tamil Nadu)	91	125	120	108
Visvesvaraya Iron & Steel Ltd (Karnataka)	13	46	42	39
Visakhapatnam Steel Plant (RINL, Andhra Pradesh)	3202	3296	3641	3962
Tata Steel Ltd (Jharkhand)	9155	9331	9960	11688
JSW Steel Ltd (Karnataka)	9257	10178	8385	9655
Other Oxygen Route	455	961	2221	2291
B. Electric Route: Total	46172	51408	51395	55934
Electric Arc Furnace	18593	23125	24599	28962
Alloy Steel Plant, Durgapur (West Bengal)	122	104	91	88
Essar Steel Ltd (Gujarat)	3245	2854	3685	5391
JSW Ispat Steel Ltd//JSW Steel Ltd (Maharashtra)	2971	2958	4294	6851
Jindal Steel & Power Ltd (Chhattisgarh)	2836	3557	3177	3445
Lloyds Steel Ltd	566	658	569	575
Jindal Stainless Ltd	1111	1907	1258	1391
Bhushan Steel Ltd	1084	2180	3078	5601
Bhushan Power & Steel Ltd (Odisha)	1714	1213	1832	3324
Other Electric Arc Furnace Route	4944	7694	6615	2296
Electric Induction Furnace	27579	28283	26796	26972

Figures rounded off.

Source: Ministry of Steel, Annual Report, 2017-18.

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**Table – 6 : Prices of Steel, 2013-14 to 2015-16
(Domestic Markets)**

(In ₹ per tonne)

Grade	Market	2013-14	2014-15	2015-16
TMT Bars (ISI, 8 mm)	Delhi	36,806	37,427	37,006
Joists (150 x 75 mm)	"	34,502	35,538	35,185
Channels (75 x 40 mm)	"	38,302	39,588	39,257
MS Squares (8 mm)	"	36,010	36,627	36,310
MS Angles (25 x 3 mm)	"	36,862	37,427	37,126
Melting Scrap	"	29,423	30,044	24,898
Induction Ingots	"	35,506	36,708	35,552
Blooms (SAIL, 150 mm)	Gobind	37,656	38,603	32,038
Melting Scrap (rolling)	"	29,188	30,156	23,447
MS Rounds (10 mm)	"	38,680	40,181	32,651
MS Squares (8 mm)	"	38,637	39,855	32,021
MS Angles (25 x 3 mm)	"	41,690	42,661	36,426
Joists (150 x 75 mm)	"	33,071	33,883	34,136
Induction Ingots (round)	"	36,362	37,299	29,857
Old Ship Breaking Scrap	"	34,140	34,781	28,356
Arc Ingots	Mumbai	35,908	36,123	34,116
Joists (150 x 75 mm)	"	33,185	33,998	34,131
MS Angles (40 x 6 mm)	"	35,577	36,231	35,923
Induction Ingots	"	34,908	35,644	33,770
Melting Scrap	"	28,715	30,025	24,590
TMT Bars (local 8 mm)	"	35,467	36,080	35,757
MS Rounds (8 mm)	"	37,867	32,242	30,824
Concast Billet Ingots	"	35,623	34,788	34,368
TMT Bars (ISI, 8 mm)	Kolkata	32,025	32,681	32,398
MS Squares (8 mm)	"	30,272	30,831	30,523
MS Angles (25 x 3 mm)	"	36,472	37,323	36,926
Channels (75 x 40 mm)	"	31,550	32,331	31,990
Joists (150 x 75 mm)	"	30,215	30,723	31,059
Induction Ingots	"	33,156	34,027	33,437
Melting Scrap	"	30,487	29,827	25,420
Arc Ingots	"	33,604	34,338	33,607
Concast Billet Ingots	"	33,877	34,788	34,007

Source: Minerals & Metals Review March, 2017.

1. Prices include excise duty and sales tax.

2. All rates are monthly averages and indicatives.

Finished Steel/Crude Steel

The Indian Steel Industry continued to record increased production of Finished Steel from 87.67 million tonnes in 2013-14 to 101.80 million tonnes in 2016-17. Finished Steel produced by the SAIL, TSL, RINL, ESL, JSWL, JSPL was 57.70 million tonnes while that produced by Other Producers was 58.21 million tonnes (including 14.10 million tonnes for IPT/own consumption) in the year 2016-17. The import and export of total Finished Steel stood at 7.23 million tonnes and 8.24 million tonnes respectively in the year 2016-17. Various Finished Steel products produced by principal steel plants are furnished in Table-7.

Crude Steel production has shown a sustained rise in last five years along with capacity. The Crude Steel working Capacity and Capacity Utilisation during the last five years is given below:

Production of Crude Steel and Working Capacity from 2012-13 to 2016-17

(Quantity in million tonnes)

Year	Working capacity	Production	% Utilisation
2012-13	97.024	78.42	81%
2013-14	102.26	81.69	80%
2014-15	109.85	88.98	81%
2015-16	121.97	89.79	74%
2016-17	128.28	97.94	76%

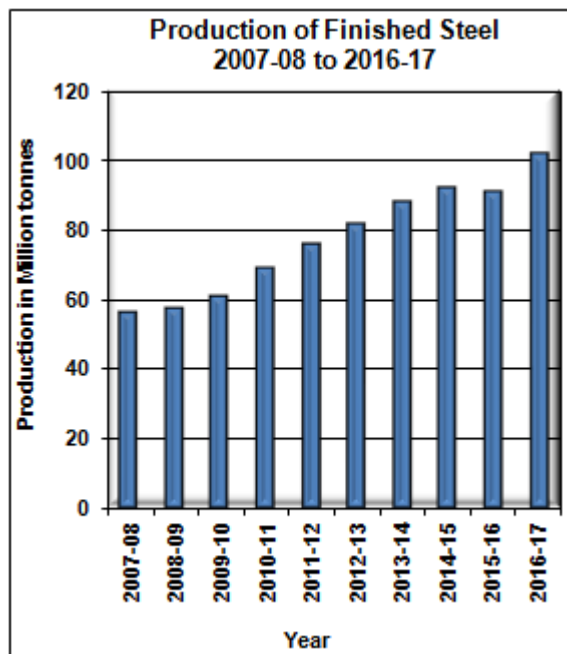
Production of Crude Steel grew at a CAGR of 5.71% from 78.42 million tonnes in 2012-13 to 97.94 million tonnes in 2016-17. In the year 2016-17, the production of Crude Steel was mainly Basic Oxygen Furnace Route (42 million tonnes), Electric Arc Furnace Route (28.96 million tonnes) and Induction Furnace Route (26.97 million tonnes) in the country. The contribution of public and private sector was 18.46 million tonnes and 79.48 million tonnes, respectively.

Blast Furnace/Basic Oxygen Furnace (BF/BOF)

Presently, there are around 58 Blast Furnace and 17 Basic Oxygen Furnace units with an installed capacity of 79.91 million tonnes and 50.85 million tonnes, respectively. The reported production of crude steel by BF/BOF route was about 42 million tonnes.

Electric Arc Furnace (including corex & MBF/EOF)

Steel produced in the Electric Arc Furnace (including corex & MBF/EOF) is mostly by recycling of steel scrap using Electric Arc Furnace (EAF). Presently, there are more than 48 EAF based steel plants that are operational in the country with an aggregate working capacity of around 37.81 million tonnes per annum. The reported production of steel ingots/concast billets by EAF units in 2016-17 was estimated at 28.96 million tonnes as against 24.60 million tonnes in 2015-16 (Table-5).



The recent developments in EAF technology, viz, to increase oxygen consumption, to reduce power consumption and to reduce tap time have led to increase in metal production. The development of thin slab casting has made EAF route more productive. This route enables slab strips rolling at lesser cost, facilitating production of cheaper strips/sheets than those that can be achieved through BF/BOF route.

Induction Furnace (IF)

Presently, in India, EAF based industries are yet to switch over to induction furnace route. An induction furnace is an electrical furnace in which heat is generated through electro-magnetic induction in an electrically conductive medium. Induction furnaces use steel melting scraps, sponge iron and pig iron/cast iron. On an average, the proportion of these items is 40% sponge iron + 10% cast iron or pig iron and the remaining is steel melting scraps. There are ground induction furnaces with an aggregate working capacity of 39.62 million tonnes. These units reported production of about 26.97 million tonnes steel in 2016-17 as against production of 26.80 million tonnes in 2015-16.

Pig Iron

Pig iron is one of the basic raw materials required by the Foundry & Casting Industry for manufacturing various types of castings for the engineering section. The main sources of pig iron have traditionally been the integrated steel plants of SAIL besides plants of Tata Steel Ltd and Rashtriya Ispat Nigam Ltd. Domestic production of pig iron lags behind and is not in tandem with the demand. Efforts were, therefore, made to increase pig iron manufacturing facilities in the secondary sector.

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Table – 7 : Various Finished Steel Products Produced by Principal Steel Plants

Plant	Products
Bokaro Steel Plant (Jharkhand)	Plates, HR coils, HR sheets, CR coils, CR sheets, GP/GC sheets, TMBP.
Durgapur Steel Plant (West Bengal)	Bars & rods, rails & railway materials, wheels and axles, fish plates, sleeper structurals, bars, rods, TMT bars, skelp, bloom, billets, slabs.
Rourkela Steel Plant (Odisha)	Flat products, bars and rods, plate, HR coil, CR coil, CR sheets, GP/GC sheets, electrical sheets, electrolytic tin plates, spirally welded large dimension pipes.
Bhilai Steel Plant (Chhattisgarh)	Billets, slabs, rails & railway materials, heavy structurals and squares, plates, merchant products, wire rods, plates and blooms.
IISCO Steel Plant (West Bengal)	Bars & rods, rail & railway materials, foundry & pipes and structural steel.
Visvesvaraya Iron & Steel Ltd (Karnataka)	Stainless steel, tool steel, other alloys & steel, bearing steel, spring steel, free cutting steel, constructional steel (a) carbon steel, (b) case hardening steel & (c) heat treatable steel.
Visakhapatnam Steel Plant (Andhra Pradesh)	Steel products in long categories, finished steel (round & square), wire rods, re-bars, angles (equal & unequal), sections, channels, beams, saleable billets, flat products, light & medium merchant products (bars), medium merchant products (structural).
Tata Steel Ltd (Jharkhand)	Bars & rods, HR sheets and strips, CR coils, rolled/forged bars & structurals, plates, GP/GC sheets.
JSW Steel Ltd (Karnataka)	Plates, HR sheets, HR coils, CR coils/sheets, GP/GC sheets.
Ispat Industries Ltd (Maharashtra)	HR coils, CR coils/sheets, GP/GC sheets.
Essar Steel Ltd (Gujarat)	Plates, HR sheets, HR coils, CR coils/sheets, GP/GC sheets.
Jindal Steel & Power Ltd (Chhattisgarh)	Plates, structurals, HR coils, rails & railway materials.

Source: Ministry of Steel, Annual Report, 2017-18 and information from individual plants.

As a result of various policy initiatives taken by the Government, the Private Sector showed considerable interest in setting up new pig iron units, especially in the post-liberalised period. This has resulted in drastic change in the contribution of Private/Secondary Sector producers. In 2016-17, about 9.39 million tonnes pig iron was

produced for sale in the country. The production of pig iron by SAIL, TSL, RINL, ESL, JSWL, JSPL (combined) and other producers is furnished in Table-3. The total share of SAIL, TSL, RINL, ESL, JSWL and JSPL was 6%, whereas the total share of other producers was 94 % in the financial year 2016-17. Location and capacity of principal pig iron units in Private Sector are furnished in Table- 8.

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Table – 8 : Location and Capacity of Principal Pig Iron Units

(In lakh tonnes)

Sl.No.	Unit	Location	Capacity
1.	Srikalahasthi Pipes Ltd (formerly Lanco Industries Ltd)	Chittoor, Andhra Pradesh	2.75
2.	Sathavahana Ispat Ltd	Haresamudram, Andhra Pradesh	2.10
3.	Jayaswal NECO Industries Ltd	Raipur, Chhattisgarh	6.50
4.	Vedanta Ltd	Amona, Goa	7.42
5.	Usha Martin Industries	Jamshedpur, Jharkhand	6.00
6.	JSW Steel Ltd	Vijaynagar, Dolvi & Salem	180.00
7.	Kalyani Steels Ltd	Hospet, Karnataka	2.90
8.	Kirloskar Ferrous Industries Ltd	Koppal, Karnataka	3.60
9.	KIOCL Ltd	Mangaluru, Karnataka	2.16
10.	Tata Metaliks Ltd	Redi, Maharashtra	3.16
11.	IDCOL Kalinga Iron Works Ltd	Barbil, Kendujhar, Odisha	3.45
12.	Kajaria Iron Castings Ltd	Durgapur, West Bengal	1.10
13.	Electrosteel Castings Ltd	Khurdah, West Bengal	3.60
14.	Tata Metaliks Ltd	Kharagpur, West Bengal	3.45
15.	Sona Alloys Pvt. Ltd	Satara, Maharashtra	3.14
16.	Aparant Iron & Steel Pvt. Ltd	Sanguem, Goa	1.60
17.	Steel Authority of India Ltd	Bhilai, Bokaro, Durgapur, Burnpur, Rourkela, Bhadravati	235.00
18.	Rashtriya Ispat Nigam Ltd	Visakhapatnam, Andhra Pradesh	65.00
19.	Monnet Ispat Ltd	Raigarh, Chhattisgarh	7.00
20.	MESCO Steel Ltd	Kalinganagar, Odisha	4.50
21.	Jai Balaji Industries Ltd	Durgapur, West Bengal	5.09
22.	Kirloskar Ferrous Industries Ltd	Hospet, Karnataka	3.60
23.	KIC Metalliks Ltd	Durgapur, West Bengal	1.65
24.	JSPL	Raigarh, Chhattisgarh	20.00
25.	VSL Steels Ltd	Hiriyur, Karnataka	3.60
26.	Jindal Saw Pipes Ltd	Mundra, Gujarat	3.60
27.	Ramsarup Loha Udyog	Kharagpur, West Bengal	3.00
28.	Adhunik Metaliks Ltd	Sundargarh, Odisha	2.14
29.	SLR Steels Ltd	Hospet, Karnataka	2.10
30.	VISA Industries Ltd	Kalinganagar, Odisha	1.75
31.	Rashmai Metaliks Ltd	Kharagpur, West Bengal	1.75
32.	New Metaliks Ltd	Durgapur, West Bengal	1.75
33.	Neelachal Ispat Nigam Ltd	Kalinganagar, Odisha	11.00

Source: MCDR Returns (Form-O), Website of concerned company, Iron & Steel Review, JPC Bulletin and Ministry of Steel.

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Sponge Iron

India is the largest producer of sponge iron in the world. Sponge iron is produced by direct reduction method which may be either gas-based or coal-based. Direct reduced iron (DRI), called as sponge iron is a metallic material formed by reduction of iron oxide at temperatures below the fusion point of iron. Hot briquetted iron (HBI) is a product obtained after densification process where the DRI feed material is at temperature more than 650° C at the time of moulding (hot briquetting) with density more than 5.0 g/cm³.

During early 1990s, Sponge Iron Industry was specially promoted to provide an alternative to steel melting scrap which was increasingly becoming scarce. The production of sponge iron during the last five years is provided in Table-2. The installed capacity of sponge iron has also increased over the years from 1.52 million tonnes

in 1990-91 to 46.01 million tonnes in 2016-17 by 320 units. Over the years, the coal-based route has emerged as a key contributor to overall production – its share increased from 63% in 2004-05 to 83% in 2016-17. In the year 2016-17, a total of 28.76 million tonnes of sponge iron was produced, out of which 23.91 million tonnes from Coal based plants and 4.85 million tonnes from Gas based plants.

Production of sponge iron in the country has also resulted in providing an alternative feed material to steel melting scrap which was hitherto imported in large quantities by the Electric Arc Furnace units and the Induction Furnace units for steel making. This has resulted in a considerable saving in foreign exchange. The available data on annual installed capacity of principal sponge iron units are furnished in Table-9.

Table – 9 : Capacities of Principal Sponge Iron (DRI) Plants

(In lakh tonnes)

Unit	Location	Capacity
Gas-based		
Essar Steel Ltd	Hazira, Gujarat	68.0
JSW Steel Ltd. (Salav) (formerly Welspun Maxsteel Ltd)	Salav, Raigad, Maharashtra	9.00
JSW Steel (formerly Ispat Industries Ltd)	Geetapuram, Dolvi, Raigad, Maharashtra	16.00
Coal-based		
Action Ispat & Power Pvt. Ltd	Marakuta & Pandaripathar, Jharsuguda, Odisha	2.50
Adhunik Metaliks Ltd	Chandrihariharpur, Sundargarh, Odisha	1.80
Alliance Integrated Metallics Ltd	Bemta, Raipur, Chhattisgarh	5.00
Anjani Steel Ltd	Ujalpur, Raigarh, Chhattisgarh	1.02
Anindita Steels Ltd.	Rabodh, Jharkhand	1.46
API Ispat Powertech Pvt. Ltd	IGC Siltara, Raipur, Chhattisgarh	1.05
Beekay Steel & Power Ltd	Uliburu, Barbil, Odisha	1.05
Bhushan Steel & Strips Ltd	Meramandali, Dhenkanal, Odisha	2.80
Bihar Sponge Iron Ltd	Chandil, Singhbhum, Jharkhand	2.10
Crest Steel & Power Pvt. Ltd	Joratarai, Rajnandgaon, Chhattisgarh	2.10
Deepak Steel & Power Ltd	Topadihi, Keonjhar, Odisha	1.44
Gallant Metal Ltd	Samakhiali, Kachchh, Gujarat	1.70
Gallant Ispat Ltd.	Sahjanwa, Gorakhpur, UP	1.00
Global Hi-tech Industries Ltd	Gandhidham, Gujarat	1.05
Goa Sponge Iron & Power Ltd	Santona, Sanguem, Goa	1.00
Godawari Power & Ispat Ltd	IGC Siltara, Raipur, Chhattisgarh	4.95

(Contd.)

IRON & STEEL AND SCRAP

Table - 9 (Concl'd.)

Unit	Location	Capacity
Gopani Iron & Power Pvt. Ltd	Tadali, Chandrapur, Maharashtra	1.20
Goldstar Steel & Alloys Ltd	Srirampuram, Vizianagaram, Andhra Pradesh	2.20
Grewal Associates Pvt. Ltd	Matkambed, Kendujhar, Odisha	1.20
Haldia Steels Pvt. Ltd	Durgapur, West Bengal	1.20
Ind Synergy Ltd	Kotmar, Raigarh, Chhattisgarh	3.00
Jai Balaji Sponge Ltd	Baktarnagar, Raniganj, West Bengal	1.05
Jai Balaji Jyoti Steels Ltd	Sundargarh, Odisha	1.20
Jai Shri Balaji Steel Pvt. Ltd (HEG Ltd)	Borai, Durg, Chhattisgarh	1.20
Jaiswal Neco Ltd	IGC Siltara, Raipur, Chhattisgarh	2.55
Janki Corporation Ltd	Sidiginamola, Ballari, Karnataka	1.80
Jindal Steel & Power Ltd	Kharsia Road, Raigarh, Chhattisgarh	1.37
Lloyds Metals & Engineering Ltd	Ghuggus, Chandrapur, Maharashtra	2.70
Mastek Steels Pvt. Ltd	Holakundi, Ballari, Karnataka	1.05
MGM Steels Ltd	Chintapokhri, Dhenkanal, Odisha	1.05
Monnet Ispat Energy Ltd	Chandkhuri Marg, Hasaud, Raipur, Chhattisgarh	3.00
Monnet Ispat & Energy Ltd	Naharpalli, Raigarh, Chhattisgarh	5.00
MSP Steel & Power Ltd	Jamgaon, Raigarh, Chhattisgarh	1.92
Nalwa Steel & Power Ltd	Taraimal, Raigarh, Chhattisgarh	1.98
Nova Iron & Steel Ltd	Dagori, Bilaspur, Chhattisgarh	1.50
OCL Iron & Steel Ltd	Lamloi, Sundargarh, Odisha	1.20
Orissa Sponge Iron Ltd	Palaspanga, Keonjhar, Odisha	2.50
Prakash Industries Ltd	Champa, Janj-gir-Champa, Chhattisgarh	4.50
Rungta Mines Ltd	Karakola and Kamando, Sundargarh, Odisha	4.20
Rashmi Cement Ltd	Barbil, Kendujhar, Odisha	3.60
Sarda Energy & Minerals Ltd	IGC Siltara, Raipur, Chhattisgarh	2.10
Scaw Industries Pvt. Ltd	Gundichapara, Dhenkanal, Odisha	1.00
Shivshakti Steel Ltd	Chakradharpur, Raigarh, Chhattisgarh	1.00
Shri Bajrang Power & Ispat Ltd	Urla, Raipur, Chhattisgarh	2.10
Shyam Sel Ltd	Dewabdighi, Burdwan, West Bengal	1.00
Singhal Enterprises Pvt. Ltd	Taraimal, Raigarh, Chhattisgarh	2.53
Sree Metaliks Ltd	Loidapada, Kendujhar, Odisha	1.74
Sri Venkatesh Iron & Alloys Ltd	Ramgarh, Jharkhand	1.20
S.K.S. Ispat & Power Ltd	Raipur, Chhattisgarh	2.70
Sunflag Iron & Steel Co Ltd	Bhandara, Maharashtra	1.50
Sunil Ispat & Power Ltd	IGC Siltara, Raipur, Chhattisgarh	1.15
Sunil Sponge Iron Ltd	Chiraipani, Raigarh, Chhattisgarh	1.05
Tata Sponge Iron Ltd (Ipitata Sponge)	Joda, Kendujhar, Odisha	3.90
Vandana Global Ltd	IGC Siltara, Raipur, Chhattisgarh	2.16
Vallabh Steels Ltd	Sahnewal, Ludhiana, Punjab	1.20
Visa Steels Ltd	KIC, Jajpur Road, Odisha	3.00
Zoom Vallabh Steels Ltd	Dughda, Saraikela-Kharswan, Jharkhand	1.20

I.G.C.: Industrial Growth Centre.

Source: *Sponge Iron Manufacturers' Association (SIMA) and individual plants.*

Consumption of Steel

As per world Steel in figures, 2017 India's per capita steel consumption increased from 53 kg in 2010 to 63 kg in 2016 and it is far below the level of other developed and some of the developing countries. The world per capita steel consumption in 2016 is reflected as 208 kg.

Apparent consumption of steel is calculated by taking into consideration with respect to export of steel, total domestic production and import of steel in the country. It is also treated as the actual domestic demand of steel in the country. The apparent consumption of finished steel in India since 2012-13 is furnished in Table-10.

Table – 10 : Domestic Consumption of Finished Steel

(In million tonnes)	
Year	Consumption
2012-13	73.48 (3.46%)
2013-14	74.09 (0.83%)
2014-15	76.99 (3.91%)
2015-16	81.52 (5.88%)
2016-17	84.04 (3%)

Source: Ministry of Steel, Annual Report, 2017-18. Figures in parentheses indicate the percentage increase over the previous year.

Domestic actual consumption of total finished steel (alloy/stainless+non-alloy) stood at 84.042 million tonnes in 2016-17 as against 73.483 million tonnes in 2012-13, growing at a CAGR of 3.4% during the last five years.

The normal demand of steel for infrastructure is 23%, construction 22%, manufacturing 18%, automobiles 12%, consumer durables 6% and other sectors 19%. With the ongoing economic liberalisation resulting in faster economic growth, the steel consumption is expected to increase rapidly.

With the expansion of capacities in the integrated plants and installation of new plants, additional supply of steel in Indian markets has increased considerably. This has created an intense competition in the domestic market in the short run.

MODERNISATION & EXPANSION

Modernisation and expansion works undertaken by different plants are as follows:

SAIL

Steel Authority of India Limited has undertaken modernisation expansion of its integrated steel plants at Bhilai, Bokaro, Rourkela, Burnpur and special steel plant at Salem. In the current phase, the crude steel capacity is being enhanced from 12.8 million tonnes to 21.4 million tonnes per annum. The indicative investment for current phase is about ₹61,870 crore. The cumulative expenditure for various modernisation & expansion has been ₹ 64,562 crore till December, 2016.

The plant-wise capacity enhancement details by 2017-18 are given below:

Hot Metal

(In million tonnes)		
Plant Name	Installed Capacity	Expansion Capacity
BSP	4.08	7.50
DSP	2.09	2.45
RSP	2.00	4.50
BSL	4.59	5.77
ISP	0.85	2.91
VISL	0.22	0.33
Total	13.82	23.46

Crude Steel

(In million tonnes)		
Plant Name	Installed Capacity	Expansion Capacity
BSP	3.93	7.00
DSP	1.80	2.20
RSP	4.20	4.20
BSL	4.36	4.61
ISP	2.50	2.50
ASP	0.23	0.48
SSP	0.18	0.18
VISL	0.12	0.23
Total	17.32	21.40

The modernisation & expansion of Rourkela Steel Plant (RPS), IISCO Steel Plant (ISP) and Salem Steel Plant got completed in 2015. At IISCO Steel Plant, Burnpur, India's largest blast furnace (4,160 m³), has been installed.

SAIL is finalising its Vision-2025 document, proposals for innovation are expected to steer the Company to increase its production capacity of Hot Metal to 50 MTPA, along with related/enabling business activities, in line with growing demand of steel in the country. This will not only enhance SAIL's contribution to nation building but will also place SAIL amongst the top steel companies globally.

Bhilai Steel Plant

Bhilai Steel Plant (BSP) is India's sole producer of rails and heavy steel plates and major producer of structural products. The plant is the sole supplier of the country's longest rail tracks of 260 metres. With an annual production capacity of 3.153 MT of saleable steel, the plant also specialises in other products such as wire rods and merchant products.

The Board of SAIL has given in principle approval to the proposal for modernisation and capacity expansion of Bhilai Steel Plant to 7.5 million tonnes of hot metal and 7 million tonnes of crude steel per annum. The proposal includes: a) Installation of a new blast furnace; b) A new 7 metres tall coke oven battery and a new sinter machine; c) Phasing out of ingot route with 100% continuous casting by adding a new steel melting shop of 4 million tpy capacity; d) Installation of a universal beam mill of 1 million tpy capacity; e) Addition of a new bar & roll mill of 0.9 million tpy capacity; f) Installation of a new universal rail mill of 1.2 million tpy capacity and g) capacity expansion of plate mill to 1.65 million tpy. The present and future capacities of hot metal crude steel, etc. are tabulated below:

Present and Future Capacity

(In million tonnes per annum)

Item	Present rated capacity	Capacity after expansion
Hot metal	4.080	7.50
Crude Steel	3.925	7.00
Finished steel	2.620	5.85
Semis	0.533	0.72
Saleable steel	3.153	6.56

Bhilai Steel Plant

The production of crude steel was 4.74 million tonnes in 2016-17.

Bokaro Steel Plant

The production of crude steel was 3.15 million tonnes in 2016-17.

Rourkela Steel Plant

The production of crude steel was 2.93 million tonnes in 2016-17.

Durgapur Steel Plant

The production of crude steel was 2.04 million tonnes in 2016-17.

IISCO Steel Plant

The plant has produced 1.39 million tonnes of crude steel in 2016-17.

Rashtriya Ispat Nigam Ltd (RINL)

Visakhapatnam Steel Plant (VSP) of RINL is the first shore-based integrated steel plant located at Visakhapatnam in Andhra Pradesh. The plant has completed expansion for doubling the capacity from 3 MTPA to 7.3 MTPA. The plant has been built to match international standards in design and engineering with state-of-the-art technology, incorporating extensive energy saving and pollution control measures.

Tata Steel Ltd (formerly TISCO)

The Company has been rechristened as Tata Steel Ltd (TSL). The Company has an integrated

steel plant located at Jamshedpur, Jharkhand, with annual crude steel making capacity of 9.7 million tonnes and variety of finishing mills. TSL has produced 11.12 million tonnes of finished steel in 2016-17 as compared to 9.53 million tonnes in 2015-16. The production of crude steel in 2015-16 was 9.96 million tonnes as against 11.69 million tonnes in 2016-17.

The Company is planning to initiate second phase of expansion at Kalinganagar plant in Odisha to double its capacity to 6 million tpy. The first phase of Kalinganagar project started commercial production in May, 2016. The Government of Odisha has allotted 2000 acres of land for the plant at Kalinganagar. The Company initially plans to set up a 7.0 million tpy capacity integrated steel plant at Jagdalpur in Bastar region of Chhattisgarh, but subsequently decided against the project due to delay in land allocation. The Company also signed an MoU with the Government of Jharkhand for setting up of a 12 million tonnes per year integrated steel plant at Saraikela in phases. The above projects are, however, subjected to raw material linkages and requisite approvals.

JSW Steel Ltd

JSW Steel Ltd's combined installed capacity of its plants at Karnataka, Tamil Nadu and Maharashtra of crude steel was 18 million tpy with value added products constituting 1.8 million tpy spread across six locations; Toranagallu (Vijayanagar Works), Salem (Salem Works), Vasind, Tarapur (downstream units), Dolvi and Kalmeshwar (Maharashtra). Vijayanagar Works existing operations produce flat and long steel products; Salem Works has its focus only in long products while the downstream units produce CR/galvanised, colour-coated, value-added flat products. All the existing operating facilities have been accredited with OHSAS-18001, ISO-9001: 2000 and ISO - 14001. Vijayanagar Works has integrated operations from beneficiation plant to 1 million tpy Cold Rolling Mill Complex. The Salem

Works has an integrated manufacturing facility with an overall crude steel capacity of 1 million tpy, comprising sinter plant, blast furnace, EOF, billet caster, bloom caster & rolling with associated facilities, such as, coke oven, power plant, oxygen plant, etc. The slabs and HR coil produced at Vijayanagar Works are further processed in downstream units at Vasind and Tarapur into value-added HR plates, CR, galvanised, galvalume and colour-coated products.

The Company has enhanced the total capacity to 10 million tpy at Vijayanagar Works. Two subsidiaries of the Company – M/s JSW Bengal Steel Ltd and M/s JSW Jharkhand Steel Ltd – have been incorporated to set up greenfield steel plants with 10 million tpy capacity each in West Bengal and Jharkhand, respectively. The Company is in possession of required land in West Bengal, while in Jharkhand, it has obtained a mining lease for iron ore.

The Vijayanagar works is also the first Indian plant that underakes large-scale, low-grade iron beneficiation process. Its 4.62 MTPA coke manufacturing unit is also the largest such facility in a single location. The Company has a manufacturing capacity of 9.2 MT of pellets annually at Vijayanagar.

JSW Steel has acquired a majority stake in Ispat Steel w.e.f. 21.12.2010. It has set up one of the largest integrated steel plants in the Private Sector in India at Dolvi in Raigad district, Maharashtra. The plant has a capacity to produce 5 million tonnes of Steel per annum. The Integrated Steel plant functions on the Converter-cum-Electric Arc Furnace route (CONARC Process) to produce steel through modern Twin Shell Electric Arc Furnace. JSW, Dolvi also having a sinter plant of capacity 4.74 MTPA. The expansion work at the Dolvi plant to enhance capacity from 3.3 MTPA to 5 MTPA has completed recently.

The Company aims to produce 44 million tonnes of steel annually with Greenfield integrated steel plants coming up in West Bengal and Jharkhand (of 10 MTPA each) by 2030. Company also plans to expand its Vijaynagar works to 20 MTPA, Dolvi works to 10 MTPA and salav to 3 MTPA.

Jindal Steel & Power Ltd (JSPL)

JSPL having manufacturing facilities for steel products in three locations; Raigarh in Chhattisgarh, Angul in Odisha and Patratu in Jharkhand. JSPL has set up a rail & universal beam plant with capabilities to produce 121 m long single piece rail and is the first in the country to manufacture large-size parallel flange beams. The sponge iron plant at Raigarh, Chhattisgarh has capacity of 1.37 million tpy. Facilities at Raigarh also include a Sinter plant of 2.84 MTPA and Steel melt shop of 3.25 MTPA.

Under the 'Make in India' vision, JSPL has successfully completed Angul Greenfield project with installation of 4 MTPA Bast Furnace, the largest ever built in India. Other plants being set up are: 6 million tpy integrated steel plant at Patratu, Jharkhand and 7 million tpy steel plant at Raigarh, Chhattisgarh. It has planned to implement these projects in phases. The present plant at Raigarh is also under expansion to 7 million tpy (3 million tpy through EF route and 4 million tpy through BOF route) comprising 3 million tpy flat products and 4 million tpy long products. It will also have 6 million tpy gas-based DRI plant with matching coal gasification unit and 4 million tpy hot metal capacity.

Essar Steel Limited (ESL)

A state-of-the-art hot rolled coil steel plant was set up at Hazira, Gujarat with 10 million tonnes capacity per annum supported by a 20 MTPA pellet facility. It is the largest fully-integrated manufacturer of high-quality flat steel products in western India. The Company's operations include 8 million tpy and 12 million tpy beneficiation plants at Bailadila in Chhattisgarh and Dabuna in Odisha. Essar has the world's second largest slurry pipeline of 267 km and

also 253 km to transport beneficiated iron ore slurry to the pellet plants namely, 8 million tpy pellet complex at Visakhapatnam, Andhra Pradesh and 6 million tpy plant at Paradip, Odisha. The Essar Steel Complex at Hazira in Surat district, Gujarat houses the world's largest gas-based single location sponge iron plant with a capacity of 6.8 million tpy. The complex also houses 1.4 million tpy cold rolling plant, 4.6 million tpy electric arc furnace, 4.6 million tpy continuous caster and 3.6 million tpy hot strip mill. Outstanding performance has been observed in the 3 DRI-HBI modules of the company.

The Company has plans to double the capacity of pelletisation at Paradip, Odisha from 6 MTPA to 12 MTPA. The scheme also includes installation of pellet plant and iron ore beneficiation plant. The Company has plans to set up a steel plant of 3.2 million tonnes per annum capacity at Bastar, Chhattisgarh, (In the first phase, a 1.6 million tpy steel plant with a captive power plant is to be set up), 3 million tonnes per annum in Jharkhand and 6 million tonnes per annum in Karnataka.

Electrosteel Steels

Electrosteel Steels Limited is one of the pioneer Companies that manufactures of Ductile Iron (DI) pipe. The Company is in the process of setting up 2.51 MTPA Greenfield Steel and DI pipe plant based on iron ore processed through Blast Furnace (BF), Basic Oxygen Furnace (BOF), Continuous Casting (CC), Hot Rolling Mill Route.

Monnet Ispat and Energy Limited

Monnet Ispat & Energy Ltd is a reputed steel manufacturer in the country having integrated steel plant of 1.8 MTPA, which include 0.8 MTPA sponge iron, 0.7 MTPA blast furnace, 0.50 MTPA rebar mill, 0.2 MTPA structural mill, 230 MW power plant, 0.75 MTPA sinter plant, 1.20 MTPA pelletisation plant and 1.00 MTPA coal beneficiation plant at Raipur & Raigarh in the State of Chhattisgarh. The Company has reportedly invested ₹ 7,600 crore in its diversification activities and further proposes to

expand its capacities from 1.8 MTPA to 2.4 MTPA with incorporation of additional facilities of coke oven, blast furnace, sponge iron, power, cement grinding unit, lime dolomite plant, rolling mill, slag crushing & automisation plant, etc.

Neelachal Ispat Nigam Limited (NINL)

NINL has an iron & steel plant with 1.1 million tonnes per annum capacity located at Kalinganagar, Duburi, Jajpur districts, Odisha. In addition, NINL along with Odisha Government have plans for setting up one million tonne steel plant at Kalinganagar, Jajpur, Odisha. The other product of the Company that is sold in the domestic market is granulated slag which is consumed by several cement plants.

National Mineral Development Corporation Ltd

NMDC is now directing its resources to diversify into steel making and other value-added products. The Company has plans to set up an integrated steel plant with three million tonnes capacity in Chhattisgarh near Nagarnar, Bastar district, construction work for the project is in progress. NMDC is in the process of expanding its business through forward integration in both greenfield and brownfield projects by setting up (a) 2.0 million tpy pellet plant in Chhattisgarh with 2 MTPA beneficiation plant at Bachel and (b) 1.2 million tpy pellet plant at Donimalai in Karnataka. Construction work for the project is in progress.

Further, NMDC had participated in the Legacy Iron's right issue in August 2014. Post right issue, NMDC's equity in Legacy Iron has increased from 48.82% to 78.56%. NMDC has acquired 50% equity in Legacy Iron Ore Ltd Australia. NMDC has signed an MoU with RINL for laying a slurry pipeline from Bailadila Complex (Chhattisgarh) to Vizag (Andhra Pradesh) via Jagdalpur to facilitate transmission of iron ore concentrate.

KIOCL Ltd

The Company operates a 350 cu m capacity blast furnace at Panambur, New Mangaluru Port for production of pig iron with 2.16 lakh tpy

capacity and a Ductile Iron Spun Pipe (DISP) plant of 1,00,000 tonnes per year capacity. The hot metal from blast furnace is the main feed stock for the DISP plant. The Company is also in the process of selecting a joint venture equity partner for an integrated steel plant to be set up in Karnataka with initial capacity of 1.5 MTPA and expandable to 5 MTPA with equity participation. The Company also operates a 3.5 million tpy pellets plant at Mangaluru with hematite ore purchased from NMDC. Also, under the 'Make in India' initiative of Govt. of India, KIOCL produced high-grade pellets out of imported high-grade ore procured from Brazil. It has signed an MoU with Kerala State Industrial Development Corporation Ltd (KSIDL) for setting up of iron ore mining, beneficiation and pelletisation plant in Kerala.

VISA Steel Ltd

VISA Steel is a leading player in the special steel (0.5 MTPA), ferrochrome (1,80,000 tpa) and metallurgical coke (0.4 million tpa) business in India. The Company is setting up an integrated 1 million tpa special steel plant and 2,50,000 MTPA ferrochrome plant at Kalinganagar Industrial Complex in Odisha. The first phase of 0.5 million tpa special steel long product plant is fully operational. The facilities include a 2,25,000 tpa pig iron plant, 3,00,000 tpa sponge iron plant, 5,00,000 tpa steel melt shop (with EAF, LRF and VD) & 5,00,000 tpa rolling mill (bar & wire rod mill). VISA Steel is also operating 1,80,000 tpa ferrochrome plant and a 75 MW captive power plant. VISA Sun Coke Limited, a joint venture Company between VISA Steel Limited and Sun Coke Energy, USA operates a 4,00,000 MTPA heat recovery coke plant and associated steam generation units at Kalinganagar in Odisha. VISA Steel has signed an MoU with the Government of Chhattisgarh for setting up a 2.5 million integrated carbon steel plant at Korarlia, district Raigarh.

IRON & STEEL SCRAP

Iron & steel scrap is one of the essential requirements for manufacture of steel in Mini-steel Industry. It is also consumed by some major steel plants. Scrap, especially from the Ship Breaking

IRON & STEEL AND SCRAP

Industry supplies substantial quantity of re-rollable steel and steel scrap for the Iron & Steel Industry. Iron scrap is available in the country in the form of pressed bundles, a mixture of used steel components (called as a commercial scrap), turnings & borings and heavy melting scrap. These are generated by industries of all sectors like automobiles, railways and engineering workshops.

The collection and processing of scrap in an organised manner is undertaken by a few units in the country. In the local market, scrap is supplied by dealers who in turn arrange to have scrap collected manually or through sub-dealers.

The consumption of scrap is mainly reported by Induction Furnace and Electric Arc Furnace units, Integrated Steel Plants and Alloy Steel & Foundry industries. Scraps are used in the Steel Sector after recycling. Recycling scrap helps in conservation of energy as remelting of scrap requires much less energy than production of iron or steel from iron ore. Also, the consumption of iron and scrap by remelting reduces the burden on landfill disposal facilities and prevents the accumulation of abandoned steel products in the environment. It increases the availability of semi-finished material, which otherwise would have to be produced using the ore. Thus, it helps in conservation of natural resources.

Ship Breaking

Ship breaking has been a major source of scrap generation. Ship breaking activities are carried out at various places on the Indian coast, the largest concentration being in the West coast. Private entrepreneurs handle the task of ship breaking in India. It is a labour-intensive job, and in India, it is a cost-efficient activity. Locations of present ship breaking activities are:

- i) Alang and Sosiya yards in Bhavnagar district, Gujarat,

- ii) Sachana district, Gujarat

- iii) Mumbai and

- iv) Kolkata

Alang & Sosiya yards account for 90% concentration of the Ship Breaking Industry in India. The yard has capacity to recycle about 450 ships per year generating re-rollable steel of > 4.5 million tonnes per annum. There are a total of 167 plots available for ship recycling spread over 10 km stretch along the coast of Alang. During 2012-13 and 2013-14, a total of 394 and 298 ships were beached by the Industry accounting for 3.8 million tonnes and 3.06 million tonnes, respectively, in terms of LDT (Light Displacement Tonnage, viz, physical weight of a ship). Today, Alang possibly represents the single largest concentration of Ship Breaking Industry in the world. The life of an average ocean-going ship is about 20 years. About 40% of the ships broken are dry cargo ships, while the remaining 40% of the ships broken are wet cargo, tanker and specialised ships. These recyclable steels mainly as steel scrap provide feed to Steel and Foundry Industry in India. The steel generated from ship recycling contributes to around 1% to 2% of the domestic steel demand.

The recommendations of a committee of Technical Experts on Ship Breaking set up by the Government of India on the directions of the Hon'ble Supreme Court have been accepted by the Hon'ble Supreme Court on 6.9.2007, on the issue of handling & management of the hazardous industrial waste generated during ship breaking. In pursuance of the directions of the Hon'ble Supreme Court in CWP 657 of 1995, Government of India in the Ministry of Steel had formulated and notified the comprehensive code for ship breaking and ship recycling, namely Ship breaking Code, 2013, vide notification dated 7th March, 2013.

MSTC Ltd**(Formerly Metal Scrap Trade Corp. Ltd)**

Presently, the Company undertakes trading activities, e-commerce, disposal of ferrous and non-ferrous scrap, surplus stores and other secondary arising mostly from Public Sector Undertakings and Government Departments, including Ministry of Defence. The Company also undertakes import of raw materials in bulk required by large industrial houses on back-to-back basis. The items of import include petroleum products, low ash metallurgical coke, coking coal, steam coal, DR pellets, HR coils and heavy melting scrap. It also undertakes trading of items within the country in competition with any other private trader.

Ferro Scrap Nigam Ltd (FSNL)

FSNL is a wholly owned subsidiary of MSTC Ltd under the Ministry of Steel. The Company undertakes the recovery and processing of scrap from slag and refuse dumps in the nine steel plants at Bhilai, Bokaro, Burnpur, Durgapur, Rourkela, Visakhapatnam, Dolvi, Duburi and Haridwar and also at Rail Wheel factory Bengaluru. The scrap so recovered is returned to the steel plants for recycling disposal and the Company is paid processing charges on the quantity recovered at varying rates depending on the category of scrap. Scrap is generated during iron & steel making and also in the rolling mills. In addition, the Company provides steel mill services, such as, scarfing of slabs, handling of BOF slag, etc. In the year 2016-17, the FSNL has recovered 2.64 million tonnes of scrap having value of ₹ 2325.74 crores.

TRADE POLICY

As per the notified Export-Import Policy incorporated under the Foreign Trade Policy (FTP) for 2015-20, the imports of primary forms of pig iron, spiegeleisen, sponge iron, ferro-alloys, stainless steel, remelting scrap, as also the semi-finished products of iron, non-alloy steel or stainless steel (such as flat-rolled products, bars, rods, coils and wires), primary and semi-finished forms of other alloy-steels, etc. are unrestricted. Similarly, the exports are also allowed freely.

WORLD REVIEW

The world production of pig iron in 2015 was about 1,230 million tonnes as against 1,263 million tonnes in 2014. China (56%), Japan (7%), India (6%) and Russia (4%) were the main producers. Countries namely, Rep. of Korea, Brazil, USA, Ukraine and Germany too featured in the list as principal producers (Table-11).

The world crude steel production in 2015 decreased marginally to 1,620 million tonnes from 1,668 million tonnes in 2014. China was the top producer accounting for 50% of world's crude steel production, followed by Japan & India (6% each) and USA (5%). Other important producers were Russia, Rep. of Korea, Germany, Turkey, Brazil, Ukraine and Italy (Table-12).

**Table – 11 : World Production of Pig Iron
(By Principal Countries)**

(In '000 tonnes)			
Country	2013	2014	2015
World: Total	1245376	1263087	1229876
Brazil	31552	32000e	33000e
China	711499	713748	691415
France	10276	10866	10097
Germany	26678	27943	27844
India*	68252	75532	74621
Iran	16465	17333	17005
Japan	83849	83872	81011
Korea, Rep. of	41045	46909	47639
Mexico	11011	11093	10555
Russia	50000	51400	53700
Taiwan	13300	14505	14370
Turkey	19548	20000e	20000e
USA	30381	29345	26000e
Ukraine	29089	24801	21863
Other countries	102431	103740	100756

Source: World Mineral Production, 2011-2015.

*Note: *India's pig iron in 2013-14, 2014-15 and 2015-16 was 7,950 thousand tonnes, 9,694 thousand tonnes and 9,227 thousand tonnes respectively.*

**Table – 12 : World Production of Crude Steel
(By Principal Countries)**

(In '000 tonnes)

Country	2013	2014	2015
World: Total	1642297	1668591	1619992
Brazil	34163	33912	33200
Canada	12349	12595	12473
China	813139	822306	803823
France	15685	16144	14984
Germany	42645	42943	42674
India*	81690	88980	89790
Iran	15631	14308	14340 ^e
Italy	24093	23714	22018
Japan	110595	110666	105134
Korea, Rep. of	66061	71542	69670
Mexico	18242	18995	18228
Russia	68800	70300	69400
Spain	14252	14163	14845
Taiwan	21466	22511	21000
Turkey	34654	34035	31517
USA	86878	88347	81000 ^e
Ukraine	33199	27373	23166
UK	11858	12034	10907
Other countries	136898	143723	141823

Source: World Mineral Production, 2011-2015.

*Note: *India's Crude steel in 2013-14, 2014-15 and 2015-16 was 81,694 thousand tonnes, 88,979 thousand tonnes and 89,790 thousand tonnes respectively.*

FOREIGN TRADE

Exports

Exports of iron and steel (total) decreased in 2015-16 to 9.12 million tonnes from 12.08 million tonnes in the previous year. Steel exports in 2015-16 comprised mainly of finished steel (including cold rolled sheets) with 4.08 million tonnes (45%) and semi-finished steel (including steel ingots) with 2.67 million tonnes (29%). Other items together accounted for the remaining 26% exports. Exports in 2015-16 were mainly to Nepal (13%), USA & UAE (8% each) and Bangladesh (7%). Exports of pig and cast iron including spiegeleisen decreased sharply by 80% to 3.28 lakh tonnes in 2015-16 from 6.50 lakh tonnes in the previous year. Exports were mainly to Thailand (54%) (Tables- 13 to 22).

Imports

Imports of iron and steel (total) in 2015-16 increased sharply by 24% to 21.90 million tonnes from 17.66 million tonnes in the previous year. Imports in 2015-16 comprised semi-finished steel, including ingots with 8.03 million tonnes (37%), iron & steel scrap with 7.22 million tonnes (33%) and finished steel, including cold rolled sheets with 5.29 million tonnes (24%). Imports in 2015-16 were mainly from China (24%), Republic of Korea, (15%) and Japan (12%). The imports of pig and cast iron (including spiegeleisen) decreased to 62 thousand tonnes in 2015-16 from 68 thousand tonnes in the previous year. Imports were mainly from Indonesia (25%), China (11%) and Sweden (7%) (Tables-23 to 32).

**Table – 13 : Exports of Iron & Steel (Total)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	12077670	868623121	9122896	677365320
USA	1411084	141922567	765860	104798227
UAE	1082821	77404825	727312	49310095
Nepal	1018670	35774206	1182825	33785827
Germany	238237	36954926	181681	30185051
Italy	660127	37608198	502403	28781594
Saudi Arabia	739336	47619830	250217	21656258
Belgium	296936	21779509	346885	21383538
UK	216924	24822054	157155	20626569
Iran	583011	39218247	346457	19738085
Bangladesh	475401	16057615	675631	18488404
Other countries	5355123	389461144	3986470	328611672

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**Table – 14 : Exports of Iron & Steel
(Finished Steel Including CR Sheet)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	5204779	327875855	4082395	245248954
USA	779302	59138752	366237	31975971
UAE	382396	22066324	430439	22570137
Nepal	512824	16809228	498102	13609023
Belgium	152534	11358233	180022	11641179
Iraq	94658	7449696	140405	11430907
Italy	135121	9939765	146183	9455889
Spain	177248	9489176	149655	7988437
Ethiopia	127784	7021920	146469	7235620
Indonesia	74646	5262749	75420	6075308
Iran	169269	12082563	126496	5946147
Other countries	2598997	167257449	1822967	117320336

**Table – 15 : Exports of Iron & Steel
(Steel wire)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	141766	18752335	157443	18119133
USA	19878	4045734	22599	3863885
Netherlands	14856	2396212	17397	2591648
Nepal	4023	168053	43672	989704
Turkey	6898	1150941	5867	886282
Italy	4204	708713	4212	651800
UAE	8195	599651	8139	578405
Belgium	3637	747194	2935	538126
Germany	3076	671820	2720	530440
South Africa	1044	234431	1963	495067
Russia	1274	304565	2484	471377
Other countries	74681	7725021	45455	6522399

**Table – 16 : Exports of Iron & Steel
(Other Finished Steel, NES)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	2096172	307489015	1975668	286253755
USA	359036	59386260	297995	58126208
Germany	157186	24998082	119242	20988501
UAE	155058	34869377	171540	20453594
UK	116497	17404098	105416	15986646
Saudi Arabia	135517	14023803	148431	14665880
Netherlands	29299	4768033	53065	8445643
Canada	55750	7134917	59774	7178587
Italy	42942	8310575	34921	7074822
France	31901	6310235	29209	5778902
Chile	2877	431368	56490	4634054
Other countries	1010109	129852267	899585	122920918

**Table – 17 : Exports of Iron & Steel
(Semi-Finished Steel Including Steel Ingot)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	4332549	197264636	2671561	119641900
Nepal	395424	13665537	552612	15692235
Iran	400100	21650553	211294	12290819
Italy	476306	17761909	316292	11421333
USA	209453	13240926	72667	9946024
Bangladesh	173009	5788064	405739	8739356
Belgium	119743	6432415	143677	6070812
UAE	528405	19076244	113452	5202345
Germany	42287	5889471	28771	4321249
Sri Lanka	161566	5300673	127420	3540145
Turkey	22005	3264476	20271	2752719
Other countries	1804251	85194368	679366	39664863

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**Table – 18 : Exports of Iron & Steel : Alloy Steel
(Granules)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	1257	73375	330	23543
USA	278	27052	119	12543
Saudi Arabia	114	5586	78	3401
UAE	94	4613	25	1357
Malaysia	-	-	13	1312
Bangladesh	17	771	18	1267
Chinese Taipei/ Taiwan	27	1410	27	1218
Germany	1	50	26	1105
Kuwait	10	586	11	594
Bahrain Is	5	333	3	209
Jordan	4	236	4	173
Other countries	707	32738	6	364

**Table – 20 : Exports of Iron & Steel (Scrap)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	4789	532480	4917	306686
Sweden	2732	405592	2100	221297
Bangladesh	615	12819	1683	34491
USA	363	9552	498	15146
Brazil	34	2888	103	9064
France	2	116	23	4474
Mauritius	++	25	15	2718
Hong Kong	10	1038	33	2529
Germany	124	39546	9	2226
Nepal	65	2519	37	2196
Tanzania, Rep	100	2876	100	2072
Other countries	744	55509	316	10473

**Table – 19 : Exports of Iron & Steel: Alloy Steel
(Powder)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	78	7509	224	12963
Japan	-	-	42	3097
Saudi Arabia	-	-	135	2867
Bangladesh	13	2007	5	1876
China	-	-	23	1628
Iran	24	1065	16	1120
Indonesia	1	402	1	747
USA	19	236	2	724
Turkey	++	427	++	465
Germany	1	195	++	176
Nepal	14	1015	++	112
Other countries	6	2162	++	151

**Table-21: Exports of Iron & Steel
(Sponge iron)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	207683	4776601	192823	3215979
Bangladesh	98725	2158059	127204	2041887
Nepal	64317	1490129	51781	740170
Bhutan	6268	163987	11556	330858
USA	417	54047	439	65077
Sri Lanka	2581	59565	654	12901
Ethiopia	-	-	540	8966
Madagascar	-	-	328	4406
Korea, Rep. of	15	2316	22	3425
UAE	32	2007	77	1953
Saudi Arabia	-	-	99	1827
Other countries	35328	846491	123	4509

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**Table – 22 : Exports of Pig & Cast Iron
(Including Spiegeleisen)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	650353	15064847	328278	6041511
Thailand	256317	5798296	175807	2795154
Chinese Taipei/Taiwan	18551	471290	44427	746732
Bangladesh	5015	138026	26626	478717
Egypt	750	36598	26070	444160
Japan	6066	238925	10002	350044
Saudi Arabia	97599	2177671	16299	335559
Pakistan	9672	263684	11977	238144
USA	1323	111334	1581	148051
Bhutan	3236	72157	5793	97545
Nepal	4781	111200	5249	84284
Other countries	247043	5645666	4447	323121

**Table - 23 : Imports of Iron & Steel (Total)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	17656424	940534386	21898078	930430146
China	4345550	242747456	5170411	224603284
Korea, Rep. of	2387739	125627045	3381047	138151953
Japan	1876510	107994428	2578005	117061939
USA	561213	34133830	1283565	49092804
Germany	393326	37532396	476061	38646986
UAE	1120819	36976012	1200138	30955315
UK	881803	34696748	1009979	30208913
Russia	281347	14901092	474247	20526192
Thailand	166166	20052260	229028	19813550
Malaysia	301102	19838148	352333	19030043
Other countries	5340849	266034971	5743264	242339167

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**Table – 24: Imports of Iron & Steel
(Finished Steel Including CR Sheet)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	5103922	334161462	5289563	311617461
China	2458815	136558705	3028200	127385470
Korea, Rep. of	700590	46899152	664601	46387049
Japan	808285	47695410	651105	45027516
USA	86673	10302423	101410	12468205
Germany	98303	11787309	103904	11028816
Russia	115850	8765655	88026	8508630
Italy	43506	6805730	37545	6396516
Belgium	95361	6287011	85444	5837967
Malaysia	36340	4551934	49340	5174463
France	118201	9795678	40087	5152771
Other countries	541998	44712455	439901	38250058

**Table – 26 : Imports of Iron & Steel
(Other Finished Steel, NES)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	519581	147098429	700871	158830314
China	243630	38694166	288951	40957528
Germany	28505	14420893	138589	16835958
Japan	28340	14815159	25572	14676179
Korea, Rep. of	31297	9605832	37803	11485011
Thailand	33264	9293826	34033	10272064
USA	12600	8020572	11637	9202044
Italy	13551	6293207	17896	8503695
Bahrain	33	23860	6780	4696350
France	7779	5348411	5886	4149399
UK	6980	4758270	6197	4001236
Other countries	113602	35824233	127527	34050850

**Table – 25 : Imports of Iron & Steel
(Steel Wire)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	192704	15295353	220535	20116367
China	100453	6284995	125475	6813521
Portu Timor	-	-	++	4531245
Japan	9613	2090807	9677	2046411
Malaysia	22495	1564713	20860	1282520
Korea, Rep. of	10560	1166759	12065	1154856
Nepal	24347	1292277	19597	964848
Germany	960	468996	1123	436157
France	2626	296538	3888	394545
Vietnam, Soc. Rep.	3365	267200	4760	373701
Thailand	3056	190885	5701	330634
Other countries	15229	1672183	17389	1787929

**Table – 27 : Imports of Iron & Steel
(Semi-Finished Steel Including Steel Ingots)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	5404921	210107343	8028420	230065930
Korea, Rep. of	1578724	62777086	2510489	71563291
Japan	997174	39303847	1777021	51169417
China	1410649	50234782	1581246	41063483
Indonesia	158224	5068037	509952	11755219
Russia	126003	3956025	356829	9234019
Ukraine	298523	10017195	245564	6085597
Brazil	106061	3511431	275623	6018009
Austria	11412	780828	131105	5986551
Germany	43793	3283116	96591	5002876
Singapore	89848	3444329	122762	4151757
Other countries	584510	27730667	421238	18035711

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**Table – 28 : Imports of Iron & Steel: Alloy Steel
(Granules)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	18570	852396	16076	761176
Spain	4231	237868	4617	221863
France	3942	189324	4040	164616
China	1499	81865	2035	91576
Italy	2106	115995	1540	77328
South Africa	1036	49993	1217	52404
Germany	798	54994	898	50892
Chinese Taipei/ Taiwan	864	48350	938	44801
Japan	3152	24261	130	21996
Thailand	497	25963	386	18027
Australia	-	-	22	5994
Other countries	445	23783	253	11679

**Table-29 : Imports of Iron & Steel: Alloy Steel
(Powder)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	2505	587519	2433	584091
UK	221	154910	222	145493
Sweden	950	139685	1147	135468
USA	303	74553	331	95914
China	187	49795	310	81607
Japan	8	15971	19	51204
Canada	780	86164	319	33295
Belgium	38	38726	46	30278
Germany	4	5604	29	8872
South Africa	9	787	9	766
Singapore	5	18600	1	562
Other countries	++	2724	++	632

**Table-30 : Imports of Iron & Steel (Scrap)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	5935948	203477830	7218869	184440592
USA	446989	13944386	1156907	25515760
UAE	869141	26633270	1025900	22915429
UK	839487	25904270	970218	22432019
South Africa	898553	23243347	773903	16166401
Singapore	239872	9422737	399914	10012088
Australia	253667	8311686	406566	8675425
Malaysia	197755	9998219	223670	8202171
Thailand	107253	8592480	143221	6893837
Netherlands	135167	10037742	108197	6577405
Korea, Rep. of	55405	4370141	118343	6073583
Other countries	1892659	63019552	1892030	50976474

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**Table-31 : Imports of Iron & Steel
(Sponge Iron)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	143129	3331349	31226	600354
Bahrain	17456	404676	14551	276293
UAE	42519	990195	12992	247474
Oman	63903	1466392	3563	74918
Bhutan	-	-	110	1110
Germany	6	401	10	514
UK	-	-	++	23
USA	++	49	++	12
Italy	-	-	++	10
Russia	18000	433923	-	-
Saudi Arabia	1033	24069	-	-
Other countries	212	11644	-	-

**Table-32 : Imports of Pig & Cast Iron
(Incl. Speigeliesen)
(By Countries)**

Country	2014-15		2015-16 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	68887	4591408	62422	3979008
Indonesia	13648	727259	15902	842794
China	4088	399668	6590	405032
Sweden	4233	381901	4643	350341
Germany	1564	320542	2016	311991
Japan	500	245414	481	271445
USA	2453	297092	2036	260355
Italy	5532	353935	3231	225510
UK	1811	224810	924	224911
Spain	5968	344698	4508	219438
Chinese Taipei/ Taiwan	5916	219659	4633	140112
Other countries	23174	1076430	17458	727079

FUTURE OUTLOOK

India is ranked as third largest producer of crude steel in the world. The Steel Industry in general is on the upswing due to strong growth in demand propelled by the strong domestic demand for steel particularly from the Construction, Manufacturing and Automotive sectors. India is also the largest producer of sponge iron in the world. The economic reforms and the consequent liberalisation of the Iron & Steel Sector brought a sea change in the Industry, particularly in the field of greenfield steel plants in the Private Sector.

The growth of the Steel Sector is linked intricately with the growth of the Indian economy, especially with growth of the steel consuming sectors. The Budget 2017 maintained the consistent and pragmatic emphasis on providing impetus to attract investment for fuelling large scale infrastructure development. This coupled with 12th Five Year Plan's target of trillion dollar

infrastructure investment are big positives for steel demand.

As per the report of the Working Group on Mineral Exploration and Development (other than coal & lignite) for XII Five Year Plan (2012-17) of the erstwhile Planning Commission, technologies for agglomeration, pelletisation and direct use of fines to produce steel and taken up to achieve the national goal to produce 200 million tonnes per annum of steel by 2020.

The New Steel Policy, 2017 aspires to achieve 300 MT of steel making capacity by 2030. The new Steel Policy further seeks to increase per capita steel consumption to the level of 160 kg by 2030 from the existing level of around 60 kg.

The World Steel Association forecasts that global steel demand will increase by 1.3% and 0.9% in 2017 and 2018, respectively. Global steel demand over the next decade will mainly depend on the emerging and developing economies.