



Indian Minerals Yearbook 2017

(Part- II : Metals & Alloys)

56th Edition

IRON & STEEL AND SCRAP

(FINAL RELEASE)

GOVERNMENT OF INDIA
MINISTRY 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 is not only 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 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 has 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	9.39
	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

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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, 2014-15 to 2016-17
(Domestic Markets)**

(In ` per tonne)

Grade	Market	2014-15	2015-16	2016-17
TMT Bars (ISI, 8 mm)	Delhi	37,427	37,006	34792
Joists (150 x 75 mm)	"	35,538	35,185	33304
Channels (75 x 40 mm)	"	39,588	39,257	36994
MS Squares (8 mm)	"	36,627	36,310	34087
MS Angles (25 x 3 mm)	"	37,427	37,126	34874
Melting Scrap	"	30,044	24,898	22858
Induction Ingots	"	36,708	35,552	32608
Blooms (SAIL, 150 mm)	Gobind	38,603	32,038	28817
Melting Scrap (rolling)	"	30,156	23,447	24192
MS Rounds (10 mm)	"	40,181	32,651	30540
MS Squares (8 mm)	"	39,855	32,021	29840
MS Angles (25 x 3 mm)	"	42,661	36,426	33442
Joists (150 x 75 mm)	"	33,883	34,136	32634
Induction Ingots (round)	"	37,299	29,857	28464
Old Ship Breaking Scrap	"	34,781	28,356	23551
Arc Ingots	Mumbai	36,123	34,116	31675
Joists (150 x 75 mm)	"	33,998	34,131	32813
MS Angles (40 x 6 mm)	"	36,231	35,923	33647
Induction Ingots	"	35,644	33,770	31957
Melting Scrap	"	30,025	24,590	23489
TMT Bars (local 8 mm)	"	36,080	35,757	33442
MS Rounds (8 mm)	"	32,242	30,824	28601
Concast Billet Ingots	"	34,788	34,368	32091
TMT Bars (ISI, 8 mm)	Kolkata	32,681	32,398	30092
MS Squares (8 mm)	"	30,831	30,523	28402
MS Angles (25 x 3 mm)	"	37,323	36,926	34692
Channels (75 x 40 mm)	"	32,331	31,990	29691
Joists (150 x 75 mm)	"	30,723	31,059	29513
Induction Ingots	"	34,027	33,437	32458
Melting Scrap	"	29,827	25,420	23302
Arc Ingots	"	34,338	33,607	32617
Concast Billet Ingots	"	34,788	34,007	32740

Source: Minerals & Metals Review, April, 2018

1. Prices include excise duty and sales tax

2. All rates are monthly averages and indicatives

3. Gobind = Mandi Gobindgarh in Punjab

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 are 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%

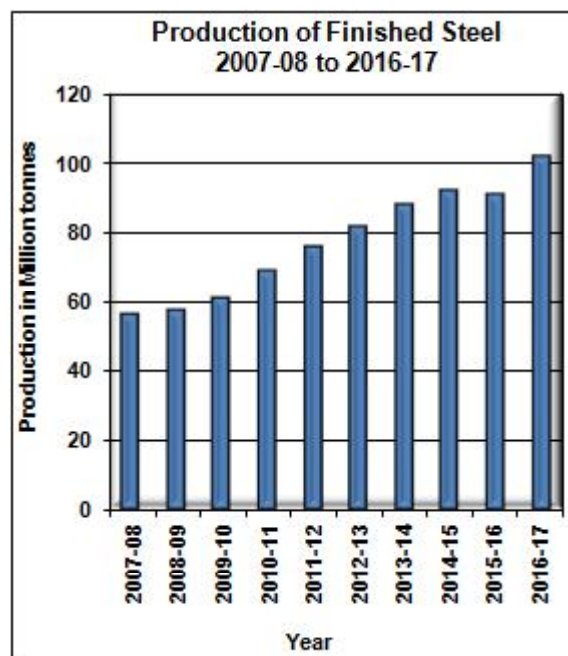
Production of Crude Steel grew at a CAGR of 5.71% from 78.42 million tonnes in 2012-13 to 97.94 million tonnes in 2016-17. In the year 2016-17, the production of Crude Steel was mainly Basic Oxygen Furnace Route (42 million tonnes), Electric Arc Furnace Route (28.96 million tonnes) and Induction Furnace 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 Furnaces 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	Khordah, 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

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 650⁰ 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 Metaliks 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.)

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 figures, in 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 84.04 million tonnes in 2016-17 as against 73.48 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 TPA 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 TPA 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 Korarli, 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 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 2016 was about 1,231 million tonnes as against 1,229 million tonnes in 2015. China (57%), Japan (7%), India (6%) and Russia & Korea, Rep. of (4% each) were the main producers. Countries namely, Brazil, USA, Germany and Ukraine too featured in the list as principal producers (Table-11).

The world crude steel production in 2016 slightly increased to 1,623 million tonnes from 1,620 million tonnes in 2015. China was the top producer accounting for 50% of world's crude steel production, followed by Japan & India (6% each), USA (5%) and Russia & Korea, Rep. of (4% each). Other important producers were Germany, Turkey, Brazil and Italy (Table-12).

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

(In '000 tonnes)			
Country	2014	2015	2016
World Total	1263000	1229000	1231000
Brazil	32000 °	33000 °	35000
China	713748	691413	700736
France	10866	10097	9724
Germany	27943	27844	27269
India	75532	74621	77254
Iran	17333	17005	18300
Japan	83872	81011	80186
Korea, Rep. of	46909	47639	46336
Mexico	11093	10074	9268 °
Russia	51400	53700	51900
Taiwan	14505	14370	14919
Turkey °	20000	20000	20000
USA	29345	25435	22293
Ukraine	24801	21863	21860 °
Other countries	103741	101011	95898

*Source: World Mineral Production, 2012-2016, BGS
e : Estimated*

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

(In '000 tonnes)

Country	2014	2015	2016
World: Total	1670000	1620000	1623000
Brazil	33912	33200	30200
Canada	12595	12473	12672
China	822306	803825	808366
France	16144	14984	14413
Germany	42943	42674	42081
India	88979	89790	97443
Iran	16257	16805	17000
Italy	23714	22018	23373
Japan	110666	105134	104775
Korea, Rep. of	71542	69670	68575
Mexico	18995	18228	18137 ^e
Russia	70300	69400	69600
Spain	14163	14845	13654
Taiwan	22511	20815	20858
Turkey	34035	31517	33163
USA	88174	78845	78475
UK	12034	10907	7581
Other countries	171024	164797	162856

*Source: World Mineral Production, 2012-2016, BGS
e: Estimated*

FOREIGN TRADE**Exports**

Exports of iron and steel (total) increased sharply in 2016-17 to 15.44 million tonnes from 9.12 million tonnes in the previous year. Steel exports in 2016-17 comprised mainly of semi-finished steel (including steel ingots) with 7.27 million tonnes (47%) and finished steel (including cold rolled sheets) with 5.72 million tonnes (37%). Other items together accounted for the remaining 16% exports. Exports in 2016-17 were mainly to Nepal (11%), Italy, Belgium & UAE (8% each) and Vietnam (7%). Exports of pig and cast iron including spiegeleisen increased to 4.89 lakh tonnes in 2016-17 from 3.28 lakh tonnes in the previous year. Exports were mainly to Thailand (30%) followed by Taiwan 21% and Bangladesh 19%. (Tables- 13 to 22).

Imports

Imports of iron and steel (total) in 2016-17 decreased sharply by 33% to 14.7 million tonnes from 21.90 million tonnes in the previous year. Imports in 2016-17 comprised iron & steel scrap with 5.72 million tonnes (39%), finished steel, including cold rolled sheets with 3.77 million tonnes (26%) and semi-finished steel including ingots with 3.68 million tonnes (25%). Imports in 2016-17 were mainly from China (19%), Republic of Korea (15%), Japan (9%) and USA (6%). The imports of pig and cast iron (including spiegeleisen) increased to 77 thousand tonnes in 2016-17 from 62 thousand tonnes in the previous year. Imports were mainly from Indonesia (32%), Russia (11%), China (10%), Spain (9%) and Sweden (7%) (Tables-23 to 32).

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	9122896	677365384	15440562	861511743
USA	765860	104798227	873628	102838078
UAE	727312	49310166	1214767	64929527
Italy	502403	28781594	1250260	57425476
Belgium	346885	21383538	1219003	55489955
Nepal	1182825	33785827	1684895	47827836
Vietnam	55613	4892452	1138586	37985147
Germany	181681	30185051	196911	29585816
Saudi Arabia	250217	21656258	471928	27805661
Bangladesh	675631	18488404	1002697	26412515
Spain	209772	13396849	546016	26346596
Other countries	4224697	350687018	5841871	384865136

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	4082395	245249025	5724816	309416391
USA	366237	31975971	454272	36041335
UAE	430439	22570208	559212	28619281
Belgium	180022	11641179	420527	24076492
Nepal	498102	13609023	754738	19474549
Saudi Arabia	83007	5731237	262941	13868056
Italy	146183	9455889	198314	13595229
Indonesia	75420	6075308	202814	11898683
Spain	149655	7988437	209201	11862980
Kuwait	38105	3378653	107642	8467718
Ethiopia	146469	7235620	164955	8339663
Other countries	1968756	125587500	2390200	133172405

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	157443	18119135	137394	17102043
USA	22599	3863885	20401	3400137
Netherlands	17397	2591648	19803	2661855
Turkey	5867	886282	5881	828348
Russia	2484	471377	4040	668339
Italy	4212	651800	4410	653501
UAE	8139	578405	7975	589432
Nepal	43672	989704	15546	516493
Germany	2720	530440	2689	500431
Korea, Rep. of	2051	398704	2654	487714
Belgium	2935	538126	2852	482734
Other countries	45367	6618764	51143	6313059

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	1975668	286253750	1810985	268043866
USA	297995	58126208	278454	56873223
Germany	119242	20988501	105941	19903360
UAE	171540	20453594	142868	18312162
UK	105416	15986646	97740	14153927
Saudi Arabia	148431	14665880	90309	9776171
Netherlands	53065	8445643	51196	8295460
Italy	34921	7074822	34469	7547455
France	29209	5778902	29376	6219344
Canada	59774	7178587	40532	5706502
Australia	35529	4508432	35507	4682295
Other countries	920546	123046535	904593	116573967

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	2671561	119641901	7274670	254345758
Italy	316292	11421333	1000785	35065411
Vietnam	32507	2437111	1087877	34123414
Belgium	143677	6070812	770159	27353103
Nepal	552612	15692235	806312	22740915
Malaysia	36742	1383476	563422	16857468
UAE	113452	5202345	496511	16605586
Spain	36581	1458335	316464	10901808
Bangladesh	405739	8739356	422740	10557822
USA	72667	9946024	113406	5966092
Thailand	43676	1787737	178387	5099479
Other countries	917616	55503137	1518607	69074660

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	330	23543	113	13224
USA	119	12543	44	7817
Malaysia	13	1312	33	2488
UAE	25	1357	7	858
Bangladesh	18	1267	7	508
Bhutan	-	-	4	289
Chinese Taipei/ Taiwan	27	1218	3	258
Nepal	3	151	4	232
Sweden	-	-	1	192
Sri Lanka	++	23	3	181
Ivory Coast/ Cote-D Ivoire	-	-	2	160
Other countries	125	5672	5	241

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	224	12962	5	3447
Japan	42	3097	1	855
Bangladesh	5	1876	2	729
Turkey	++	465	++	526
UAE	-	-	++	227
USA	2	724	++	68
Austria	-	-	++	13
Canada	-	-	++	2
Saudi Arabia	135	2867	-	-
China	23	1628	-	-
Iran	16	1120	-	-
Other countries	1	1185	2	1027

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	4917	306688	11328	782088
China	28	1970	6028	425469
Sweden	2100	221297	1894	208796
Belgium	-	-	24	26160
Brazil	103	9064	221	16019
Germany	9	2226	40	11952
Bangladesh	1683	34491	626	11442
Thailand	1	237	98	10151
France	23	4474	36	9715
Chinese Taipei/ Taiwan	1	32	54	9390
USA	498	15146	222	7568
Other countries	471	17751	2085	45426

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	192823	3215978	394254	6467171
Bangladesh	127204	2041887	258420	3940148
Thailand	-	-	31500	636071
Nepal	51781	740170	28522	500794
Kuwait	-	-	28558	447627
Indonesia	-	-	20777	346426
Korea, Rep. of	22	3425	3118	191655
Bhutan	11556	330858	10953	142386
Malaysia	-	-	4253	73051
USA	439	65077	398	65069
Sudan	-	-	1773	29176
Other countries	1821	34561	5982	94768

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (`'000)	Qty (t)	Value (`'000)
All Countries	328278	6041510	489383	9618050
Thailand	175807	2795154	148824	2780316
Chinese Taipei/Taiwan	44427	746732	103255	1811505
Bangladesh	26626	478717	93970	1610931
USA	1581	148051	48477	1049806
Indonesia	600	21048	45574	948606
Pakistan	11977	238144	14312	318643
Japan	10002	350044	8600	275460
Malaysia	227	30292	6815	144123
Iran	807	72743	1244	112206
Bhutan	5793	97545	6762	98163
Other countries	50431	1063040	11550	468291

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	21898078	925898939	14706046	725054176
China	5170411	224603284	2803962	165820035
Korea, Rep. of	3381047	138151953	2276933	113265411
Japan	2578005	117061939	1289136	84807022
USA	1283565	49092804	923648	40229043
Germany	476061	38646986	292428	34906118
UK	1009979	30208913	859848	22359765
UAE	1200138	30955315	833179	21163754
Malaysia	352333	19030043	315765	19373048
Thailand	229028	19813550	249063	19093274
France	99909	12312101	201962	16679141
Other countries	6117602	246022051	4660122	187357565

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	5289563	311617460	3765493	257185561
China	3028200	127385470	1745395	87284757
Korea, Rep. of	664601	46387049	687700	46568692
Japan	651105	45027516	550892	44308038
Germany	103904	11028816	94376	11745628
USA	101410	12468205	89027	9826655
Russia	88026	8508630	65218	6882465
France	40087	5152771	34270	5858048
Belgium	85444	5837967	78747	4898997
Italy	37545	6396516	27694	4390988
Chinese Taipei/ Taiwan	41523	3590012	32410	2794648
Other countries	447718	39834508	359764	32626645

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	220535	15585165	246958	17576290
China	125475	6813521	127484	7630203
Japan	9677	2046411	13492	2226601
Korea, Rep. of	12065	1154856	20761	1607030
Malaysia	20860	1282520	24724	1420804
Nepal	19597	964848	21876	1087988
France	3888	394545	5812	514267
Vietnam	4760	373701	6961	459717
Germany	1123	436157	950	454046
Thailand	5701	330634	6545	378738
Indonesia	4534	324442	4092	344710
Other countries	12855	1463530	14261	1452186

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	700871	158830312	618654	155314158
China	288951	40957528	350670	47016088
Japan	25572	14676179	25238	15934987
Germany	138589	16835958	30483	15820454
USA	11637	9202044	12202	10821671
Korea, Rep. of	37803	11485011	28554	9883765
Thailand	34033	10272064	29561	9461828
Malaysia	25387	3559460	33593	8504024
Italy	17896	8503695	17151	6540545
UK	6197	4001236	5655	3815868
France	5886	4149399	6572	3723024
Other countries	108920	35187738	78975	23791904

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	8028420	230065929	3686644	126547223
Korea, Rep. of	2510489	71563291	1273326	43757298
Japan	1777021	51169417	666935	21081861
China	1581246	41063483	374132	11950837
Indonesia	509952	11755219	341379	8650043
Austria	131105	5986551	166760	7234792
Russia	356829	9234019	226218	5742393
France	30966	1753271	137286	5709868
Singapore	122762	4151757	128569	4302744
Germany	96591	5002876	59919	3426224
Ukraine	245564	6085597	106358	2979808
Other countries	665895	22300448	205762	11711355

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	16076	761179	18641	797026
Spain	4617	221863	5481	231945
France	4040	164616	4355	191972
China	2035	91576	3870	137509
South Africa	1217	52404	1553	65995
Germany	898	50892	1204	65224
Chinese Taipei/ Taiwan	938	44801	700	25543
Japan	130	21996	274	22631
UK	53	2874	282	14391
Thailand	386	18027	309	13490
Korea, Rep. of	94	3798	291	10348
Other countries	1668	88332	322	17978

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	2433	584090	1681	347979
China	310	81607	394	85148
Japan	19	51204	58	82412
Sweden	1147	135468	560	48714
USA	331	95914	207	48713
Belgium	46	30278	55	22762
Canada	319	33295	261	18449
Singapore	1	562	4	12023
UK	222	145493	30	10898
Germany	29	8872	12	6925
Korea, Rep. of	-	-	64	5046
Other countries	9	1397	36	6889

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	7218869	184440584	5719949	137854665
USA	1156907	25515760	810193	17684959
UAE	1025900	22915429	746078	17012214
UK	970218	22432019	833256	15912479
Malaysia	223670	8202171	224786	7205326
Thailand	143221	6893837	163378	6542206
Singapore	399914	10012088	228414	6147352
Netherlands	108197	6577405	148340	5519880
Korea, Rep. of	118343	6073583	91092	5080890
South Africa	773903	16166401	285696	4999162
Australia	406566	8675425	204258	4026561
Other countries	1892030	50976466	1984458	47723636

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	31226	600355	38136	560414
UAE	12992	247474	28151	433110
South Africa	-	-	7191	83841
Saudi Arabia	-	-	1759	18397
Baharain	14551	276294	998	13996
Japan	-	-	36	10842
USA	++	12	1	198
Austria	-	-	++	30
Oman	3563	74918	-	-
Bhutan	110	1110	-	-
Germany	10	514	-	-
Other countries	++	33	-	-

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

Country	2015-16 (R)		2016-17 (P)	
	Qty (t)	Value (` '000)	Qty (t)	Value (` '000)
All Countries	62422	3979009	77264	4824785
Indonesia	15902	842794	24915	1482743
China	6590	405032	7660	451567
Germany	2016	311991	1974	389127
Sweden	4643	350341	5102	352875
Spain	4508	219438	7338	343727
Japan	481	271445	473	314726
UK	924	224911	790	241158
Russia	4052	118415	8866	204173
USA	2036	260355	1337	174107
Chinese Taipei/ Taiwan	4633	140112	3860	127919
Other countries	16637	834175	14949	742663

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.