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IRON & STEEL AND SCRAP

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GOVERNMENT OF INDIA
MINISTRY OF MINES
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9 Iron & Steel and Scrap

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 engineering material, environment-friendly and recyclable.

The finished steel production in India has grown from a mere 1.1 million tonnes in 1951 to 81.68 million tonnes in 2012-13. 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 finished steel production from 45% in 1992-93 to 84.3% in 2012-13.

Steel exports from India began in 1964. Exports in the first five years were mainly the 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 only to witness slump due to rising domestic demand. Post liberalisation, a rejuvenation in the steel sector resulted in large-scale exports of iron and steel. In 1991-92, the main producers exported 3.87 lakh tonnes iron & steel as against 10.32 million tonnes in 2012-13, including finished steel exports of 4.76 million tonnes. 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 requirement 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 to achieve a positive growth.

NATIONAL STEEL POLICY-2005

The National Steel Policy (NSP) was announced in 2005. The salient features of the NSP 2005 are as under:

1. The NSP has set a target of 110 million tonnes of domestic steel production by 2019-20. This would require about 190 million tonnes iron ore. To meet the additional iron ore requirement, the Government plans to take the following steps:

   (a) Create additional mining capacity of 200 million tonnes iron ore.

   (b) Encourage investments totalling to about ₹ 20,000 crore.

   (c) Ensure that clearances from authorities of Environment & Forest be obtained within a specified time frame.

   (d) To make investment plans for large number of iron ore leases which are idle.

   (e) Renewal of existing leases only against credible mining investment plans.

   (f) Grant of fresh leases only against new norms and stringent assessment of technical and financial capabilities of the applicants.

   (g) Restrictions on long-term exports of iron ore to a maximum of 5 year contract.

   (h) Encourage sintering and pelletisation so as to use fines which make up about 90% of the present exports.

2. Projections for requirement of coking coal and non-coking coal were fixed at 70 million tonnes and 20 million tonnes, respectively, to achieve the target steel production. The NSP has recommended first priority to the Steel and Sponge Iron Industry in allocation of higher grade (below 12% ash content) non-coking coal. The policy makes it clear that 85% of the requirement of coking coal will have to be imported. Further, reduced rate of production of non-coking coal would necessitate import of non-coking coal as well for utilisation in the steel sector. The coal shortages have prompted the NSP to call for a constant review of allocation and pricing of natural gas as a suitable alternative.

3. The NSP projects that 60% of the new steel capacity would come up through blast furnace route, 33% through sponge iron & EAF route and 7% through other routes. Sponge iron units are expected to increase capacity from 13 million tonnes at present to 38 million tonnes by 2020, especially in Jharkhand and Odisha. The NSP envisages a judicious blend of exports and domestic supply of steel.

4. The NSP also seeks the upgradation and modernisation of the refractory industry.

5. The NSP seeks to examine and formulate corrective measures to obtain fiscal incentives, which are usually available to other infrastructure projects as also the rationalisation of customs and excise duty structure for reducing the fiscal and revenue deficits.

6. NSP 2005 is presently under review and Ministry of Steel has formulated a Committee in May, 2012 to review the existing National Steel Policy 2005.

Further, the new National Steel Policy-2012 is being framed and some of the major objectives of the draft National Steel Policy 2012 are enumerated below:

a) To attract investments in Indian steel sector from both domestic and foreign sources and facilitate speedy implementation of investment intentions on board so far, so as to attain crude steel capacity level of 300 million tonnes by 2025-26 to meet the domestic demand fully.

b) To ensure easy availability of vital inputs and necessary infrastructure to achieve a projected production level of 275 million tonnes by 2025-26.

c) To provide greater focus on Research and Development (R&D) for developing indigenous technologies, especially for finding solutions for optimum utilisation of indigenous resources and mitigating the concerns of environment and climate change.

d) To develop indigenous capabilities of design, engineering and manufacturing of critical capital equipment required for steel production.

e) To encourage production and consumption of value added steel by providing necessary focus on availability and product development, especially for (a) meeting the special requirements of rural India; b) meeting the special requirement of auto, power, construction and shipping sectors; and c) producing lighter but stronger steel which helps in achieving higher energy efficiency in end applications and also helps in mitigating the concerns on environment, climate change and human health.

f) To foster competition at the market place, discourage cartelisation and encourage production of quality steel for maximisation of consumer welfare and for protecting the interests of common man and the producers against unfair practices of domestic and overseas competitors.

g) To ensure sustainable development of the industry with minimum possible displacement of local people and loss to their livelihoods and with minimum damage to the environment by adopting best practices in the production processes and ensuring adoption of environment friendly practices by the investors.

h) To become globally competitive by achieving efficiency levels at par with the global standards, especially in areas such as energy consumption, material efficiency, quality of steel, water consumption, productivity of major iron/steel making equipment, pollution levels and CO_2 emissions.

STRUCTURE AND ROLE OF INDIAN STEEL INDUSTRY

India has risen to the 4th position as largest crude steel producing country in the world in 2012-13. The Indian Steel Industry comprises integrated steel plants in the primary sector using BF-BOF route of iron & steel production. In the primary sector, there are 13 integrated steel plants in the public and private sectors. In 2012-13, the reported production of hot metal, was 14,447 thousand tonnes; crude steel 13,579 thousand tonnes; pig iron 223 thousand tonnes; saleable steel 12,880 thousand tonnes (semi-finished 2760 thousand tonnes and finished steel 10,120 thousand tonnes) respectively by SAIL, a Public Sector Company.

The secondary 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.

Traditionally, Indian steel industry was classified into Main Producers and Secondary Producers. However, with the coming up of larger capacity steel making units of different process routes, the classification has been characterised as Main Producers & Other Producers. Other Producers comprise Major Producers in Private Sector namely, 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. India's crude steel capacity, production and capacity utilisation in 2012-13 was 97.02 million tonnes, 78.42 million tonnes and 81%, respectively.

The structure of the Indian Steel Industry in 2012-13 is given in Table-1. Production of iron & steel by main producers and others during 2008-09 to 2012-13 is furnished in Table-2 and by public/private sector in Table-3. The details on plant-wise capacity and production of hot metal and crude/liquid steel are given 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, 2012-13

(In million tonnes)

Sector	Type of units	Working		Non-working		Total		Production	
		No. of units	Annual capacity	No. of units	Annual capacity	No. of units	Annual capacity	2011-12(R)	2012-13(P)
Primary (Crude/ Liquid Steel)	Integrated plants (Oxygen route)	13	35.55	–	–	13	35.55	31.23	33.35
Secondary	Electric Arc Furnace (EAF)	47	25.76	0	0	47	25.76	19.13	19.38
	Induction Furnace (IF)	1321	33.95	–	–	1321	33.95	23.94	25.69
	Pig iron	>19	+4.83	–	–	>19	+4.83	5.37	6.87
	Sponge iron	324	37.3	NA	NA	324	37.3	24.97	23.01
	HR (sheets/strips/ plates rerolling units)	1720	30.98	568	4.21	2288	35.19	NA	NA
	HR steel (sheets, strips, plates units)	12	14.39	–	–	12	14.39	NA	NA
	CR Mills (sheets & strips)	65	9.55	–	–	65	9.55	6.93	NA
	Steel wire drawing units	35	0.71	65	0.73	100	1.44	NA	NA
	GP/GC/PVC - coated sheets/strips	20	5.06	–	–	20	5.06	5.90	NA
	Tin plate	1	0.10	2	0.11	3	0.21	0.24	NA

Source: *Annual Report of Ministry of Steel, 2013-14.*

Table – 2 : Production of Iron and Steel, 2008-09 to 2012-13

(In '000 tonnes)

Item/producers	2008-09	2009-10	2010-11	2011-12(R)	2012-13
I. Pig Iron : Total	**6207**	**5884**	**5684**	**5371**	**6870**
Main Producers	589	731	579	502	674
Other Producers	5618	5153	5105	4869	6196
II. Sponge Iron : Total	**21091**	**24326**	**25341**	**24971**	**23006**
Gas Based	5516	6148	6071	5166	3940
Coal Based	15575	18178	19270	19805	19066
III. Crude Steel : Total	**58437**	**65839**	**70672**	**74291**	**78416**
Main Producers	21755	22969	23543	23314	24417
ASP + VISL	263	308	308	291	195
Other Producers					
EAF Units (Including Corex & MBF/EOF)	18365	22738	23880	26750	28119
Induction Furnaces	18054	19824	22941	23936	25685
IV. Finished Steel for Sale (Alloy/Non-alloy) : Total	**57164**	**60624**	**68621**	**75696**	**81680**
Main Producers	17216	18038	18407	17978	19244
Other Producers	46229	51093	57890	66426	70376
Less: Inter Plant Transfer/Own Consumption	6281	8507	7676	8708	7940

Figures rounded off.

Source: *Ministry of Steel, Annual Report, 2012-13 and 2013-14*

EAF: Electric Arc Furnace, MBF: Mini Blast Furnace, EOF: Energy Optimising Furnace.

Table – 3 : Production of Iron and Steel, 2008-09 to 2012-13 (By Sectors)

(In '000 tonnes)

Item/producers	2008-09	2009-10	2010-11	2011-12(R)	2012-13
I. Pig Iron : Total	**6207**	**5884**	**5683**	**5371**	**6870**
Public Sector	589	731	579	502	674
	(9.5%)	(12.4%)	(10.2%)	(9.3%)	(9.8%)
Private Sector	5618	5153	5104	4869	6196
	(90.5%)	(87.6%)	(89.8%)	(90.7%)	(90.2%)
II. Crude/Liquid Steel : Total	**58437**	**65839**	**70672**	**74291**	**78416**
Public Sector	16372	16714	16996	16477	16482
	(28.01%)	(25.4%)	(24.0%)	(22.2%)	(21.0%)
Private Sector	42065	49125	53676	57814	61934
	(71.98%)	(74.6%)	(76%)	(77.80%)	(79.0%)
III. Finished Steel for Sale (Alloy/Non-alloy) : Total	**55227**	**60623**	**68620**	**75698**	**81681**
Public Sector	12673	13018	13249	12523	12818
	(22.9%)	(21.5%)	(19.3%)	(16.5%)	(15.7%)
Private Sector	42554	47605	55371	63175	68863
	(77.1%)	(78.5%)	(80.7%)	(83.5%)	(84.3%)

Figures rounded off.
Source: *Ministry of Steel, Annual Report, 2012-13 and 2013-14.*

Table – 4 : Capacity and Production of Hot Metal and Crude/Liquid Steel, 2011-12 and 2012-13 (By Principal Producers)

(In '000 tonnes)

Unit	Annual installed capacity		Production			
	Hot metal	Crude/Liquid steel	Hot metal		Crude/Liquid steel	
			2011-12(R)	2012-13(P)	2011-12(R)	2012-13(P)
Public Sector						
Bokaro Steel Plant (Jharkhand)	4585	4360	4012	4124	3647	3757
Bhilai Steel Plant (Chhattisgarh)	4700	3925	5126	5202	4901	5008
Rourkela Steel Plant (Odisha)	2120	1900	2309	2366	2170	2209
Durgapur Steel Plant (West Bengal)	2088	1802	2099	2241	1914	2034
IISCO Steel Plant, Burnpur (West Bengal)	550	500	451	231	330	135
Visvesvaraya Iron & Steel Plant (Karnataka)	205	118	118	94	91	64
Salem Steel Plant (Tamil Nadu)	–	320	-	-	96	73
Alloy Steel Plant, Durgapur (West Bengal)	–	264	-	-	200	131
Visakhapatnam Steel Plant (Andhra Pradesh)	3400	3000	3778	3814	3128	3071
IDCOL Kalinga Iron Works Ltd	170	–	-	-	-	-
Private Sector						
JSW Steel Ltd (Karnataka)	NA	6800	NA	NA	7442	8518
Tata Steel Ltd (Jharkhand)	NA	9700	7746	8858	7128	8130
JSW Steel (Maharashtra)	2000	3000	NA	NA	2466	2711
Essar Steel Ltd (Gujarat)	NA	4600	NA	NA	4308	4163
Jindal Steel & Power Ltd (Chhattisgarh)	1670	3000	NA	NA	2759	3031
Lloyds Steel Industries Ltd (Maharashtra)	–	850	-	NA	620	601
Jindal Stainless Ltd	–	NA	-	NA	752	1107

Figures rounded off.
Source: *Annual Report of Ministry of Steel, 2012-13, 2013-14 and individual plants.*

Table – 5 : Production of Crude/Liquid Steel, 2008-09 to 2012-13 (By Route)

(In ₹ '000 tonnes)

Route/plant	2008-09	2009-10	2010-11	2011-12(R)	2012-13 (P)
All Routes : (A+B) Total	**58619**	**65839**	**70672**	**74291**	**78415**
A. Oxygen Route : Total	**26245**	**29832**	**30646**	**31226**	**33349**
Bhilai Steel Plant (Chhattisgarh)	5183	5108	5329	4901	5008
Durgapur Steel Plant (West Bengal)	1886	1966	1961	1914	2034
Rourkela Steel Plant (Odisha)	2083	2128	2160	2170	2209
Bokaro Steel Plant (Jharkhand)	3577	3599	3592	3647	3757
IISCO Steel Plant (West Bengal)	417	400	411	330	135
Salem Steel Plant (Tamil Nadu)	-	-	-	96	73
Visvesvaraya Iron & Steel Ltd (Karnataka)	95	103	108	91	64
Visakhapatnam Steel Plant (Andhra Pradesh)	3145	3205	3235	3128	3071
Tata Steel Ltd (Jharkhand)	5646	6563	6856	7128	8130
JSW Steel Ltd (Karnataka)	3218	6254	6508	7442	8518
Other Oxygen Route	995	506	486	379	350
B. Electric Route : Total	**32374**	**36007**	**40026**	**43065**	**45066**
Electric Arc Furnace	**14320**	**16180**	**17085**	**19129**	**19381**
Alloy Steel Plant, Durgapur (West Bengal)	168	205	200	200	131
Essar Steel Ltd (Gujarat)	3342	3474	3392	4348	4163
JSW Ispat Steel Ltd (Maharashtra)	2201	2689	2377	2466	2711
Jindal Steel & Power Ltd (Chhattisgarh)	1457	1961	2270	2759	3031
Lloyds Steel Ltd (Maharashtra)	460	505	553	620	601
Jindal Stainless Ltd (Haryana)	470	679	703	752	1107
Other Electric Arc Furnace Route	6222	6667	7590	7984	7637
Electric Induction Furnace	**18054**	**19827**	**22941**	**23936**	**25685**

Figures rounded off.

Source: *Ministry of Steel, Annual Report, 2012-13 and 2013-14..*

Table – 6 : Prices of Steel, 2010-11 to 2012-13 (Domestic Markets)

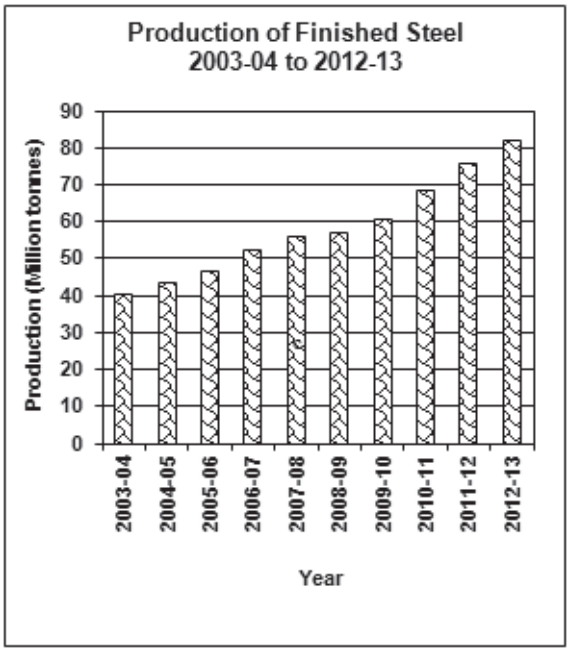
(In ₹ per tonne)

Grade	Market	2010-11	2011-12 (R)	2012-13(P)
CTD Bars (ISI, 8 mm)	Delhi	32,738	34,742	36,741
Joists (150 x 75 mm)	"	30,312	32,066	34,407
Channels (75 x 40 mm)	"	30,713	32,671	35,214
MS Squares (8 mm)	"	31,755	33,742	35,964
MS Angles (25 x 3 mm)	"	31,358	34,532	36,835
Melting Scrap	"	22,704	27,679	30,421
Blooms (SAIL, 150 mm)	Mandi Gobindgarh	40,860	39,035	39,321
Melting Scrap (rolling)	"	24,355	29,853	31,314
MS Rounds (10 mm)	"	31,196	38,219	40,590
MS Squares (8 mm)	"	30,637	37,396	39,988
MS Angles (25 x 3 mm)	"	33,758	40,256	43,019
Joists (150 x 75 mm)	"	27,957	30,508	32,924
Induction Ingots (round)	"	29,588	35,891	37,375
Old Ship Breaking Scrap	"	26,917	32,427	34,358
MS Flat (3 x 20 mm)	"	-	37,490	40,698
Joists (150 x 75 mm)	Mumbai	28,173	30,626	33,034
MS Angles (40 x 6 mm)	"	30,358	32,892	35,278
Induction Ingots	"	26,515	30,606	34,499
Melting Scrap	"	22,371	27,740	28,450
CTD Bars (local 8 mm)	"	30,735	32,975	35,253
MS Rounds (8 mm)	"	30,075	31,915	34,051
CTD Bars (ISI, 8 mm)	Kolkata	26,348	28,389	31,725
MS Squares (8 mm)	"	25,922	28,085	30,338
MS Angles (25 x 3 mm)	"	30,819	34,092	36,416
Channels (75 x 40 mm)	"	26,935	29,221	31,736
Joists (150 x 75 mm)	"	23,131	25,932	29,441
Induction Ingots	"	19,689	28,048	32,486
Melting Scrap	"	18,380	25,519	30,749
Arc Ingots	"	20,057	27,913	33,118
Concast Billet Ingots	"	20,647	28,954	32,747

Source: *Minerals & Metals Review.*

Finished Steel

The Indian Steel Industry continued to record increased production of finished steel from 57.16 million tonnes in 2008-09 to 81.68 million tonnes in 2012-13. Finished steel produced by the steel plants of SAIL in 2012-13 was 10.1 million tonnes. In 2012-13, Visakhapatnam Steel Plant of Rashtriya Ispat Nigam Ltd produced 2.72 million tonnes and Tata Steel produced 6.43 million tonnes. JSW Steel (Vijayanagar) is the largest finished steel producer among private sector integrated steel plants. JSW Steel produced 8.87 million tonnes saleable steel in 2012-13. Various finished steel products produced by principal steel plants are furnished in Table-7.



Electric Arc Furnace (EAF)

Steel produced in the Secondary Sector is mostly by recycling of steel scrap using Electric Arc Furnace (EAF). Presently, there are 47 EAF based steel plants operational in the country with an aggregate capacity of 25.76 million tonnes per annum. The reported production of steel ingots/ concast billets by EAF units in 2012-13 was estimated at 19.38 million tonnes as against 19.13 million tonnes in 2011-12 (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. Induction furnace has capability to operate on a charge up to 85% DRI (sponge iron). There are 1,321 induction furnaces with an aggregate capacity of 33.95 million tonnes. These units reported production of about 25.69 million tonnes steel in 2012-13 as against production of 23.94 million tonnes in 2011-12.

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 and is not in tandem with the demand. Efforts were, therefore, made to increase pig iron manufacturing facilities in the secondary sector.

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: *Annual Report of Ministry of Steel, 2011-12 and information from individual plants.*

As a result of various policy initiatives taken by the Government, 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 other producers (private/ secondary sector units) from merely 8% in 1991-92 to about 90.2% by 2012-13. In 2012-13, about 6.87 million tonnes pig iron was produced. The production of pig iron by public and private sector plants is furnished in Table-3. The share of private/secondary producers in the years 2011-12 and 2012-13 was around 90.7% and 90.2%, respectively, in spite of the unprecedented increase in the prices of imported metallurgical coke that the industry was constrained with. Location and capacity of principal pig iron units in private sector are furnished in Table - 8.

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

(In lakh tonnes)

Sl.No.	Unit	Location	Capacity
1.	Lanco Industries Ltd	Chittoor, Andhra Pradesh	2.25
2.	Sathavahana Ispat Ltd	Anantapur, Andhra Pradesh	1.20
3.	Jayaswal NECO Industries Ltd	Raipur, Chhattisgarh	7.50
4.	Sesa Goa Ltd	Bicholim, Goa	1.80
5.	Usha Martin Industries	Jamshedpur, Jharkhand	1.10
6.	JSW Steel Ltd	Bellary, Karnataka	7.20
7.	Kalyani Ferrous Industries Ltd	Koppal, Karnataka	1.20
8.	Kirloskar Ferrous Industries Ltd	Koppal, Karnataka	2.40
9.	KIOCL Ltd	Mangalore, Karnataka	2.27
10.	Usha Ispat Ltd	Redi, Maharashtra	3.00
11.	JSW Ispat Steel Ltd	Dolvi, Raigad, Maharashtra	20.00
12.	Kalinga Iron Works	Barbil, Kendujhar, Odisha	1.70
13.	Kajaria Iron Castings Ltd	Durgapur, West Bengal	1.10
14.	Electrosteel Castings Ltd	Khardah, West Bengal	1.10
15.	Tata Metaliks Ltd	Kharagpur, West Bengal	0.90
16.	Sona Alloys Pvt. Ltd	Satara, Maharashtra	3.14
17.	Aparant Iron & Steel Pvt. Ltd	Sanguem, Goa	1.55

Source: *Development Commissioner for Iron & Steel, Ministry of Steel, Kolkata and individual plants.*

Sponge Iron

India is the largest producer of sponge iron in the world. Sponge is produced from iron ore by using non-coking coal. 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 650^0C at the time of moulding (hot briquetting) with density more than 5.0 g/cm^3.

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 given in Table-2. The installed capacity of sponge iron has also increased over the years from 1.52 million tonnes in 1990-91 to currently at 37.30 million tonnes, which includes 3 gas-based units having 9.3 million tpy capacity. The production has risen from 0.9 million tonnes in 1991-92 to about 23.01 million tonnes in 2012-13. Over the years, the coal-based route has emerged as a key contributor to overall production; its share has increased from 63% in 2004-05 to 83% in 2012-13. About 80% coal-based sponge iron produced in the world comes from India. However, the constraints faced by sponge iron industry include non-availability of right grade of iron ore and non-coking coal at affordable prices.

Production of the 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 given 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	68.00
Welspun Maxsteel Ltd (formerly Vikram Ispat)	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, Sundergarh, Odisha	1.80
Alliance Integrated Metallics Ltd	Bemta, Raipur, Chhattisgarh	5.00
Anjani Steel Ltd	Ujalpur, Raigarh, Chhattisgarh	1.02
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	IGC Borai, Durg, Chhattisgarh	1.15
Deepak Steel & Power Ltd	Topadihi, Keonjhar, Odisha	1.44
Gallant Metal Ltd	Samakhiali, Kachchh, Gujarat	1.70
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
Goldstar Steel & Alloys Ltd	Srirampuram, Vizianagaram, Andhra Pradesh	2.20
Ind Synergy Ltd	Kotmar, Raigarh, Chhattisgarh	3.00
Jai Balaji Sponge Ltd	Baktarnagar, Raniganj, West Bengal	1.05
Jai Shri Balaji Steel Pvt. Ltd (HEG Ltd)	Borai, Durg, Chhattisgarh	1.20
Jayaswal Neco Ltd	IGC Siltara, Raipur, Chhattisgarh	2.55
Janki Corporation Ltd	Sidiginamola, Bellary, Karnataka	1.80
Jindal Steel & Power Ltd	Kharsia Road, Raigarh, Chhattisgarh	13.70
Lloyds Metals & Engineering Ltd	Ghuggus, Chandrapur, Maharashtra	2.70

(Contd.)

Table - 9 (Concld.)

Unit	Location	Capacity
Mastek Steels Pvt. Ltd	Holakundi, Bellary, Karnataka	1.05
MGM Steels Ltd	Chintapokhri, Dhenkanal, Odisha	1.00
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, Raipur, Chhattisgarh	1.98
Nova Iron & Steel Ltd	Dagori, Bilaspur, Chhattisgarh	1.50
OCL Iron & Steel Ltd	Lamloi, Sundergarh, 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, Sundergarh, Odisha	3.30
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
Shraddha Ispat Pvt. Ltd	Santona, Sanguem, Goa	0.60
Shyam Sel Ltd	Dewabdighi, Burdwan, West Bengal	1.00
Singhal Enterprises Pvt. Ltd	Taraimal, Bilaspur, Chhattisgarh	1.56
Sree Metaliks Ltd	Loidapada, Kendujhar, Odisha	1.74
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
Topworth Steel Pvt. Ltd	IGC Borai, Durg, Chhattisgarh	0.60
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.*

Apparent Consumption of Steel

India's per capita steel consumption increased from 38 kg in 2005-06 to 59.2 kg in 2012-13 and it is far below the level of other developed and developing countries. The world and China average of per capita finished steel consumption in 2013 is estimated at 225 kg and 515 kg, respectively.

Apparent consumption of steel is calculated by taking into consideration export of steel, total domestic production and import of steel in the country. Sometimes, change in stock is adjusted to arrive at the consumption figures. It is also treated as the actual domestic demand of steel in the country. The apparent consumption of finished steel since 2003-04 is given in Table-10.

Table – 10 : Domestic Consumption of Finished Steel

(In million tonnes)

Year	Consumption
2003-04	33.12 (7.95%)
2004-05	36.38 (9.84%)
2005-06	41.43 (13.88%)
2006-07	46.78 (12.91%)
2007-08	52.13 (11.41%)
2008-09	52.35 (0.42%)
2009-10	59.34 (13.35%)
2010-11	66.42 (11.93%)
2011-12	71.02 (6.93%)
2012-13	73.48 (3.46%)

Source: *Annual Report, Ministry of Steel, 2008-09 to 2012-13.*
Figures in parentheses indicate the percentage increase over the previous year.

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

SAIL is in the process of modernising and expanding its production units. The objective is to achieve a production capacity of 26.2 million tonnes/annum of hot metal. The expansion plans would increase the hot metal production capacity of SAIL from 14.61 million tonnes in 2006-07 per annum to 26.18 million tonnes by 2012-13 as per the table given below:

(In million tonnes)

Plant	Hot metal capacity by 2012-13
Bokaro Plant	7.44
Bhilai Plant	7.50
Rourkela Plant	4.50
Durgapur Plant	3.50
IISCO Plant	2.91
VISL	0.33
Total	**26.18**

Order for all major packages of ISP & SSP and part packages for expansion of Bokaro, Bhilai, Rourkela and Durgapur Steel Plants have been placed and they are in various stages of implementation. Objectives of expansion plan are:

* 100% production of steel through Basic Oxygen Furnace (BOF) route.
* 100% processing of steel through continuous casting.
* Value addition by reduction of semi-finished steel.
* Auxilliary fuel injection system in all the Blast Furnaces.
* State-of-the-art process control computerisation/ automation.
* State-of-the-art online testing and quality control.
* Energy saving schemes.
* Secondary refining and
* Adherence to environment norms.

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 specializes 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 metre 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. is given below.

Present and Future Capacity

(Unit 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

Bokaro Steel Plant

The hot metal production capacity at Bokaro is likely to touch 7.44 million tpy by 2012-13 from 4.59 million tpy in 2006-07. The facilities as planned for expansion include a) new Steel Melting Shop Complex (SMS III) with an installed annual capacity of 3.8 million tonnes crude steel; b) Cold Rolling Mills Complex of 1.2 million tpy capacity and c) Rebuilding of three coke oven batteries.

Rourkela Steel Plant

The hot metal production from RSP is to reach to 4.50 million tonnes by 2012-13 from 2.12 million tonnes. The progress at RSP includes a) New half coke oven battery (0.23 million tpy); b) New Sinter plant (3.9 million tpy); c) New blast furnace (1.6 million tpy); d) Third BOF converter (150 tonnes); e) Third slab caster in SMS II; f) Upgradation of Hot Strip Mill and Plate Mill; g) New CRNO Line (0.1 million tpy) and h) New Pipe Coating Plant (0.06 million tpy).

Durgapur Steel Plant

DSP's hot metal production is projected to touch 3.50 million tonnes by 2012-13 from 2.06 million tonnes in 2006-07. The new facilities as planned are a) New Sinter Plant; b) Bloom-cum-Round Caster; c) Medium Structural Mill; d) Additional finishing Mill and e) New Bar and Rod Mill (0.6 million tpy).

IISCO Steel Plant

The plant is set to undergo modernisation-cum-expansion through which its hot metal production capacity will be raised to 2.91 million tpy by 2012-13.

Salem Steel Plant

Expansion and modernisation of the Salem Steel Plant envisages installing Steel Melting and Continuous Casting facilities to produce 180,000 tpy slabs along with expansion of Cold Rolling Mill complex for stainless steel products from 60,000 tpy to 146,000 tpy and an additional Roll Grinding Machine for Hot Rolling Mill for enhancing the production to 364,000 tpy.

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 was commissioned in 1992 with a capacity to produce around 3 million tonnes of liquid steel per annum. 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. Visakhapatnam has excellent layout

which allows expansion of the plant capacity. VSP is in the midst of implementing an expansion plan to double its annual liquid steel making capacity from the present level of 3 million tpy to 6.3 million tpy and is almost completed. Other units namely Blast Furnace-3 and Wire Rod Mill-2 with first billet rolling have been commissioned in April, 2012 and June, 2012, respectively. RINL is further implementing modernisation scheme which would further add one million tonne capacity by 2016-17 taking its overall capacity to 7.3 mtpa.

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 achieved a production of 5.50 million tonnes and 6.43 million tonnes of finished steel and 7.13 million tonnes and 8.13 million tonnes of crude steel in 2011-12 and 2012-13, respectively.

Setting up of a new integrated steel plant with 12.5 million tonnes capacity in Kalinganagar, Jajpur, Odisha by TSL is currently underway, which the company plans to complete in phases. It is set to augment production capacity by 3 mtpa in the first phase. Government of Odisha has allotted 2000 acres of land for the plant at Kalinganagar. The company has further plans to set up a 7.0 million tpy capacity integrated steel plant at Jagdalpur in Bastar region of Chhattisgarh. In the first phase, installation of a 2 million tpy capacity plant is likely to be taken up; and it is expected to be completed in 3.5 to 5 years. Capacity expansion to 5 million tpy will be undertaken subsequently. The process of acquiring of land is under progress. 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 receipt of requisite approvals.

JSW Steel Ltd

JSW Steel Ltd has combined (Karnataka, Tamil Nadu and Maharashtra) installed crude steels capacity of 14.3 million tpy with value added products constituting 1.8 million tpy spread across four locations; Toranagallu (Vijayanagar Works), Salem (Salem Works), Vasind and Tarapur (downstream units). Vijayanagar Works existing operations produce flat and long steel products, Salem Works focus only in long products and 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 and rolling with associated facilities such as coke oven, power plant, oxygen plant, etc. The slabs and HR coil produced at Vijaynagar 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 are 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.

In January 2011, company acquired the assets of Integrated Steel Plant division of Bellary Steel & Alloys Ltd. In February 2011, the company commissioned the Sinter plant 3 (5.75 mtpa capacity) at Vijayanagar Works, the largest of such facility in India. In October 2011, the

company signed a joint venture agreement with Marubeni-Itochu Steel Inc. Tokyo, (MISI) to set-up a steel processing center in North India, under the name of JSW MI Steel Service Centre Pvt Ltd. The company has decided to set up a new cold rolling mill complex of 2.3 mtpa in two phases at its Vijayanagar Works, considering the growing demand from consumer durables and automobile segment for CRCA products. By 2020, the company aims to produce 34 million tonnes of steel annually with Greenfield integrated steel plants coming up in West Bengal and Jharkhand.

Jindal Steel & Power Ltd (JSPL)

JSPL has set up a rail & universal beam plant with capabilities to produce 121 m long the world's longest rails and is the first in the country to manufacture large-size parallel flange beams. The company has captive coal mines at Dongamahua in Raigarh district, Chhattisgarh and coal washing unit with capacity of 6 million tonnes per year to wash 47-48% coal ash to 26%. The sponge iron plant at Raigarh, Chhattisgarh has capacity of 1.37 million tpy. Facilities at Raigarh also include following capacities - steel 3 million tonnes (Rail and structurals 0.75 million tonnes, plates 1.00 million tonnes and slabs, rounds, blooms and billets 1.25 million tonnes), hot metal 1.67 million tonnes and captive power plant 623 MW.

As part of expansion projects, JSPL is setting up a 6 million tpy integrated steel plant at Angul in Odisha. 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 4.6 million tpy capacity and is expanded to 10 million tonnes per annum. It is the largest fully-integrated manufacturer of high-quality flat steel products in western India. 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 set up a steel plant of 6 million tonnes per annum capacity at Paradip, Odisha. 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 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.

JSW Ispat Steel Ltd (formerly, Ispat Industries Ltd)

JSW Steel has aquired a 45.53% majority stake in JSW 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 3 million tpy of hot rolled coils (HRC). The company also manufactures sponge iron and pig iron at their Dolvi complex. The company has a gas-based DRI plant of 1.6 million tpy capacity and an ultra-modern blast furnace of 2 million tpy capacity to produce hot metal/pig iron. It also has a 2.24 million tpy sinter plant at Dolvi. 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 Ispat Steel Ltd has plans to expand its HR coils capacity at Dolvi to 3.6 million tonnes per year. A new 2 million tonnes sinter plant, a 1,260 tonnes/day oxygen plant and a new electric arc furnace have also been commissioned at IIL Dolvi. The company is considering to scale up the plant capacity to 5 million tpy and also has plans to set up 5 million tpy integrated steel plant at Paradip, Odisha.

Neelachal Ispat Nigam Limited (NINL)

NINL has a 1.1 million tonnes per annum capacity iron & steel plant located at Kalinganagar, Duburi, Jajpur district, Odisha. The NINL and Odisha Government will be 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.

NEW STEEL PROJECTS

In the context of long-term demand projection of steel, the Government adopted a two-pronged strategy for increasing steel production in the country. Firstly, through modernisation and expansion of existing public sector steel plants in the country and secondly, by offering initiatives to private sector to install new steel capacities. After the announcement of the Industrial Policy in 1991 and encouraged by the various other policy initiatives of the Government, substantial interest by several entrepreneurs to set up new steel plants has been witnessed. Besides the steel PSUs, massive capacity addition is in the pipeline by private steel producers including foreign direct investors. As per the latest information, 301 MoUs have been signed in various states with intended capacity of around 488.56 million tonnes with an investment of over ₹ 5-10 lakh crore by 2020. Some projects were at various stages of implementation. POSCO has planned to set up 12 million tpy capacity steel plant in Odisha by using "Finex" process with direct utilisation of sinter feed iron ore (-8 mm) besides utilising the advantages of "Corex" technology. Similar expansion is also coming up in secondary steel sector consisting of sponge iron, EAF, induction furnace, rolling mill, etc. With these new steel plants, contribution of private sector units is gradually increasing and this trend is expected to continue.

National Mineral Development Corporation Ltd

NMDC is now directing its resources to diversify into steel making. An integrated steel plant with a capacity of three million tonnes will be set up in Chhattisgarh near Nagarnar, Bastar district. 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 (b) 1.2 million tpy pellet plant at Donimalai in Karnataka and (c) 0.36 million tpy BHJ ore beneficiation plant at Donimalai.

Further, NMDC has acquired 50% equity in Legacy Iron Ore Ltd Australia and has signed an MoU with RINL for laying a slurry pipeline from Bailadila Complex (Chhattisgarh) to Vizag (Andhra Pradesh) via Jagdalpur to facilitate evacuation of iron ore concentrate.

NMDC sold 28.21 million tonnes in domestic market during 2013-14 as against 24.67 million tonnes during corresponding period last year (CPLY). The company exported 2.30 million tonnes of iron ore to Japan, South Korea and China valued at approximately ₹ 1600 crores during current year compared to 1.60 million tonnes valued at ₹ 956 crores in the CPLY. Total sales during the year was 30.51 million tonnes as against 26.27 million tonnes during CPLY. NMDC produced 30.18 million tonnes of iron ore during 2013-14 compared to 27.18 million tonnes in CPLY.

KIOCL Ltd

The company is operating 350 cu m capacity blast furnace at Panambur, New Mangalore Port for production of pig iron with 2.27 lakh tpy capacity and a Ductile Iron Spun Pipe (DISP) plant of 100,000 tonnes per year capacity. The hot metal from blast furnace will be 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 mpta and expandable to 5 mtpa with equity participation. The company also operates a 3.5 million tpy pellets plant at Mangalore with

hematite ore purchased from NMDC. 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.

Government of Andhra Pradesh has approved the draft MoU to be entered between Andhra Pradesh Mineral Development Corporation (APMDC) and KIOCL for joint exploration of iron ore deposits located in Nemkal in Anantapur Distt., AP. KIOCL produced 1.265 million tonnes and sold 1.236 million tonnes of pellets during 2012-13.

VISA Steel Ltd

VISA Steel is a leading player in the Special Steel, Ferro Chrome and Metallurgical Coke Business in India. The Company is setting up an integrated 1 million TPA Special Steel 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 225,000 TPA Pig Iron Plant, 300,000 TPA Sponge Iron Plant, 500,000 TPA Steel Melt Shop (with EAF, LRF and VD) & 500,000 TPA Rolling Mill (Bar & Wire Rod Mill). VISA Steel is also operating 180,000 TPA Ferro Chrome 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, is operating a 400,000 MT per annum heat recovery coke plant and associated steam generation units at Kalinganagar in Odisha.

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 and 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 land fill 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 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. During 2010-11, 2011-12 and 2012-13 a total of 357, 291 and 394 ships were beached by the industry accounting for 3.1 million tonnes, 3.1 million tonnes and 3.8 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. The Court has also directed the Government to formulate a comprehensive Code incorporating the recommendations which are operative till the statutes are amended. The Code is under formulation in the Ministry of Steel.

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, etc. It also undertakes trading in 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 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.

The recovery of scrap by FSNL in 2012-13 was 2.33 million tonnes in comparison to 2.16 million tonnes in 2011-12.

TRADE POLICY

As per the modified Export-Import Policy incorporated under the Foreign Trade Policy (FTP) for 2009-14, 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. In order to preserve iron ore resources for domestic use on cheaper rates, export duty on iron ore has been increased to 30% ad valorem on all varieties of iron ore (except pellets) from December, 2011. The export duty on pellets has been imposed to 5% ad valorem vide notification No.3/2014-customs dated 27th January, 2014.

WORLD REVIEW

The world production of pig iron in 2012 was about 1,174 million tonnes as against 1,159 million tonnes in 2011. China, Japan, India, Russia, Rep. of Korea, Brazil, USA, Germany and Ukraine were the principal producers (Table-11).

The world crude steel production in 2012 increased marginally to 1,547 million tonnes from 1,518 million tonnes in 2011. China was the top

producer accounting for 46% of world's crude steel production, followed by Japan (7%), USA (6%) and India (5%). Other important producers were Russia, Korea, Republic of, Germany, Turkey, Brazil, Ukraine and Italy (Table-12).

FOREIGN TRADE

Exports

Exports of iron and steel (total) increased by 11% in 2012-13 to 10.32 million tonnes from 9.26 million tonnes in the previous year. Steel exports in 2012-13 comprised finished steel (including cold rolled sheets) 4.76 million tonnes (46%) and semi-finished steel (including steel ingots) 3.46 million tonnes (34%). Other items together accounted for remaining 20% exports. Exports in 2012-13 were mainly to UAE & USA (10% each), Nepal & Thailand (6% each), Saudi Arabia (5%) and Belgium (4%). Exports of pig and cast iron including spiegeleisen decreased sharply to 4.34 lakh tonnes in 2012-13 from 8.21 lakh tonnes in the previous year. Exports were mainly to Korea, Rep. of (41%) , Malaysia (22%), Indonesia (8%) and Thailand (7%) (Tables - 13 to 22).

Imports

Imports of iron and steel (total) in 2012-13 increased marginally to 18.91 million tonnes from 17.38 million tonnes in the previous year. Imports in 2012-13 comprised semi-finished steel, including ingots 5.23 million tonnes (28%) iron and steel scrap 8.20 million tonnes (43%) and finished steel, including cold rolled sheets 3.64 million tonnes (19%). Imports in 2012-13 were mainly from China (13%), Korea, Republic of (10%), Japan (9%), USA & UK (7% each), South Africa and UAE (6% each). The imports of pig and cast iron (including spiegeleisen) increased marginally to 54 thousand tonnes in 2012-13 from 44 thousand tonnes in the previous year. Imports were mainly from South Africa (28%), China (10%), Italy (9%) and Sweden (8%) (Tables-23 to 32).

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

(In '000 tonnes)

Country	2010	2011	2012
World : Total	**1108000**	**1159000**	**1174000**
Brazil	30898	32460[e]	32600[e]
China	597333	629693	657905
France	10137	9698	9532
Germany	28560	27943	27046
India	64987	66460	62057
Iran	10532	12670	13725
Japan	82283	81028	81405
Korea, Rep. of	35065	42213	41718
Mexico	10075	10463	10199
Russia	48200	48200	50500
Taiwan	9358	12940	11748
Ukraine	27366	28878	28487
USA	26843	30233	32113
Other countries	126363	126121	114965

Source: *World Mineral Production, 2008-2012.*

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

(In '000 tonnes)

Country	2010	2011	2012
World : Total	**1430000**	**1518000**	**1547000**
Brazil	32948	35220	34524
Canada	13009	12891	13507
China	637230	683883	716542
France	15414	15781	15607
Germany	43830	44284	42661
India	68321	72200	76715
Iran	11995	13040	14463
Italy	25750	28735	27257
Japan	109598	107601	107232
Korea, Rep. of	58914	68519	69073
Mexico	16870	18110	18095
Russia	66300	68400	70400
Spain	16343	15504	13639
Taiwan	20498	22879	19932
Turkey	29030	34103	35885
Ukraine	33346	35512	33509
UK	9708	9478	9579
USA	80495	86000	88598
Other countries	140401	145860	139782

Source: *World Mineral Production, 2008-2012.*

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**9257059**	**606834662**	**10315243**	**712154758**
USA	1037296	95757998	1022796	111256209
UAE	810231	45149799	1066243	66045234
Germany	258237	32302180	251690	35012143
Saudi Arabia	412618	21244699	524990	28496916
Italy	287408	22515211	354216	26032985
Belgium	581963	27221378	409682	24211811
Thailand	93120	5357347	573245	21872299
Nepal	440719	16195476	623504	20808961
UK	236615	19398556	170889	18306032
Iraq	170232	9479451	288241	17975652
Other countries	4928620	312212567	5029747	342136516

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**4092036**	**239679414**	**4758680**	**299369513**
USA	535543	38450243	601859	48469506
UAE	388123	20111703	532029	31265189
Iraq	165789	9014459	269638	15982164
Indonesia	181973	14050425	146599	11264119
Nepal	234600	8269492	355195	11102272
Italy	84031	5856863	147859	10357810
Belgium	91548	6529648	121523	9878250
Australia	70301	4484945	121997	7735863
Saudi Arabia	160162	7935048	97279	7091010
Russia	44741	2735548	91638	5913351
Other countries	2135225	122241040	2273064	140309979

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**180872**	**19154467**	**115163**	**17686494**
USA	22044	3280276	19130	3305466
Germany	10385	2161069	10590	2090701
Italy	7286	1265009	7809	1329137
Belgium	9621	1161124	6496	1215861
France	5726	977212	6966	1116068
UAE	22919	1072135	8995	648313
Turkey	3434	590102	3829	640149
UK	9496	814046	3290	635882
Brazil	1759	356826	2259	444790
Netherlands	1584	312825	1863	341635
Other countries	86618	7163843	43936	5918492

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**1813912**	**202806358**	**1853704**	**241085387**
USA	324342	43576199	350826	53360094
Gemany	174666	19336743	168585	22363557
UAE	120400	13650050	134217	19138100
UK	116863	12762333	107116	13519690
Canada	66344	6472397	83717	9382544
Saudi Arabia	62902	5614923	99024	9154152
Italy	43741	7626096	44958	7808782
South Africa	80730	5097780	63891	5379680
France	30552	3973181	28759	4446585
Netherlands	29494	3726227	25685	3970413
Other countries	763878	80970429	746926	92561790

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**3077643**	**142508318**	**3462542**	**150675645**
UAE	278322	10301650	390753	14982388
Thailand	50096	2168385	405351	14002826
Saudi Arabia	177527	7225709	326777	12131141
Belgium	456965	16307466	258756	9817975
Vietnam, Soc. Rep.	76656	3072798	203842	7466644
Nepal	158282	6257046	208846	7260292
Italy	152343	7766123	153590	6537255
Germany	48857	7263314	41144	6275536
USA	155031	10421450	50333	6046928
Spain	284439	9367875	152266	4966032
Other countries	1239125	62356502	1270884	61188628

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**724**	**49473**	**3975**	**96583**
Bhutan	-	-	3322	65009
Nepal	3	313	337	12881
Saudi Arabia	132	7491	104	5816
China	-	-	42	2832
USA	65	6365	5	2694
Sudan	1	115	49	2333
Kuwait	8	417	35	1326
Turkey	-	-	40	1007
Yemen Republic	-	-	15	875
Egypt	-	-	15	848
Other countries	515	34772	11	962

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**134**	**15496**	**37**	**6120**
Belgium	1	174	8	4211
Mozambique	-	-	23	660
Germany	-	-	3	538
Nepal	++	22	3	345
USA	-	-	++	206
Sri Lanka	-	-	++	147
Indonesia	-	-	++	11
China	-	-	++	2
Other countries	133	15300	-	-

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**7301**	**601715**	**4226**	**438100**
Sweden	2625	435511	1894	286251
Germany	166	32385	286	36757
China	1984	42818	533	35954
UK	1	216	206	25555
Oman	428	11312	388	11484
Belgium	-	-	59	9197
Japan	5	379	192	8255
UAE	376	6347	150	4779
Malaysia	50	5774	51	4234
Bangladesh	30	521	210	3994
Other countries	1636	66452	257	11640

Table – 21: Exports of Iron & Steel (Sponge Iron) (By Countries)

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**84437**	**2019420**	**116916**	**2796915**
Bangladesh	28524	696979	50432	1202797
Nepal	17194	455976	31667	714865
Bhutan	4272	71532	12278	250708
Malaysia	17610	380145	9255	229315
Kuwait	4069	103750	5624	150368
Sri Lanka	713	11235	3658	81740
USA	197	20498	613	68423
Mauritius	540	13909	1053	30776
Saudi Arabia	-	-	752	19570
Ethiopia	278	7065	516	13676
Other countries	11040	258331	1068	34677

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**821428**	**27396836**	**433994**	**10218710**
Korea, Rep. of	183021	4210806	178538	4003092
Malaysia	73202	1762407	97174	2258556
Indonesia	49828	1131303	33134	875704
Thailand	154151	3620555	31844	743634
China	202300	12668707	27114	509575
Vietnam, Soc. Rep.	5568	127422	20000	443042
Nepal	3151	64307	17098	403110
Chinese Taipei/Taiwan	114371	2760426	10520	265235
Japan	4300	129226	5514	191491
Bhutan	5256	98951	4203	151950
Other countries	26280	822726	8855	373321

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**17381812**	**814625474**	**18907982**	**894554930**
China	2592993	154709468	2372768	153710318
Korea, Rep. of	1670388	87281984	1827819	102869061
Japan	1249861	77572961	1714334	102314900
USA	1254217	48715391	1321897	56576679
Germany	505008	38364592	846550	55872796
UK	1174164	36783767	1357977	45439423
UAE	1039922	30205510	1060121	33582963
South Africa	659937	16397466	1214387	32104246
Russia	737686	27023242	676083	27840413
Netherlands	238850	15394905	304462	17574671
Other countries	6258786	282176188	6211584	266669460

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**3631437**	**258832822**	**3638633**	**262785578**
China	1316828	79700840	1201491	73319710
Japan	448401	36229380	578456	42804519
Korea, Rep. of	414201	30181632	416718	34067442
Germany	126400	13997780	199881	16319985
USA	165257	13096098	148219	13457708
Russia	92214	5683815	164649	9660116
Italy	139229	11619650	48044	7499225
France	39595	5265901	55033	6752786
Belgium	112205	6763589	90437	5826968
Nepal	77119	4647083	87280	4665469
Other countries	699988	51647054	648425	48411650

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**154054**	**12647308**	**195587**	**15102300**
China	58853	4028965	89297	5452252
Japan	4760	1080529	8086	1684821
Nepal	20899	1112356	27626	1644031
Malaysia	18835	1073813	20561	1338036
Korea, Rep. of	11064	1102414	14196	1319038
Germany	2245	523604	2699	609426
Sweden	1382	938484	560	366445
Thailand	9016	491603	5589	325340
USA	2074	266115	2114	320248
Chinese Taipei/Taiwan	2476	247108	2489	275415
Other countries	22450	1782317	22370	1767248

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**576428**	**123553792**	**544913**	**137530709**
China	199814	31262301	251724	44243449
Japan	41567	11546901	45003	16559883
Germany	36691	10887491	35758	12612160
Korea, Rep.of	29640	7043804	38564	10098399
USA	21369	7821004	23281	8761290
Thailand	21399	5803421	22208	6411877
Italy	16381	5153610	13253	4872875
UK	9298	4134061	9302	4243429
UAE	37704	4122335	19180	3527384
France	5923	2150460	8196	2959996
Other countries	156642	33628404	78444	23239967

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**5379027**	**213386401**	**5228345**	**211349293**
Korea, Rep.of	1155744	45607078	1302209	54047218
Japan	722963	27945531	1066695	40587224
China	804362	33511547	674180	26187924
Germany	87321	4963806	342498	18256591
Russia	551484	17837867	408798	13395545
Ukraine	591082	20868590	312796	11147014
Brazil	134754	4432060	183550	6060177
France	228656	8724795	92925	5011827
Belgium	104592	4805351	96811	4792437
Chinese Taipei/Taiwan	53135	2842370	112997	4749123
Other countries	944934	41847405	634886	27114213

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**15277**	**736042**	**16186**	**873541**
Spain	5160	262311	5215	279846
France	1931	88261	2821	139067
Italy	1287	64783	2183	117818
China	2924	126369	1805	90005
Germany	756	43141	983	62018
Chinese Taipei/Taiwan	860	36643	818	40150
South Africa	868	40173	837	38636
Romania	21	1068	273	30131
USA	289	16618	301	22540
Thailand	295	11560	202	11181
Other countries	886	45115	748	42149

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**2263**	**543391**	**1877**	**437692**
China	250	71072	283	99743
Canada	472	55123	858	99458
USA	242	65645	186	73978
Sweden	549	97305	379	62068
UK	214	125553	76	50265
Japan	35	11269	29	26682
Belgium	104	44938	13	12905
Korea, Rep. of	59	8777	26	6362
Germany	166	33930	24	3793
Chinese Taipei/Taiwan	21	2342	1	947
Other countries	151	27437	2	1491

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**6962722**	**188938245**	**8197917**	**243564965**
UK	1068049	26604818	1266928	35413000
USA	997377	24696624	1111562	32247706
South Africa	602414	13821442	1163096	29292295
UAE	907825	22074168	889055	24928742
Netherlands	207358	12863429	271416	15399748
Germany	251428	7914818	264707	8008823
Malaysia	123909	5124278	143878	6668228
Singapore	100103	4104053	163516	5622478
Kuwait	192691	3719551	199749	4962673
China	209684	6002782	151105	4255657
Other countries	2301884	62012282	2572905	76765615

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

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**660604**	**15987474**	**1084524**	**22910852**
Oman	606610	14800323	709101	14997254
Malayasia	-	-	130556	2688869
Saudi Arabia	4776	84964	78763	1802684
UAE	6515	139022	67834	1389158
Jordan	-	-	52227	1073422
Russia	1579	19827	36400	753754
China	278	5594	2883	61578
Trinidad	964	19002	1313	28715
Qatar	39000	906741	1000	24253
USA	433	6929	1081	18848
Other countries	449	5072	3366	72317

Table – 32 : Imports of Pig & Cast Iron (Incl. Spiegeleisen) (By Countries)

Country	2011-12		2012-13	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**44156**	**2713997**	**53974**	**3134639**
South Africa	8816	316854	14869	425398
Sweden	4804	365418	4178	360754
China	6992	363391	5161	343098
USA	1902	166465	2421	280642
Italy	3995	202601	4955	275169
Germany	1564	238831	1254	204566
Spain	2524	126230	2561	136598
Japan	401	139038	389	128095
UK	288	110871	438	112207
Romania	625	46753	1238	107853
Other countries	12245	637545	16510	760259

FUTURE OUTLOOK

India ranked fourth as a largest producer of crude steel in the world and is expected to become the 2nd largest producer by 2015-16, provided all requirements for fresh capacity creation are met. 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. Union Budget 2013-14 has maintained its focus on infrastructure development, especially rural infrastructure. This coupled with 12th Plan's target of trillion dollar infrastructure investment are big positives for steel demand.

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