***IRON AND STEEL INDUSTRY IN INDIA***

The **iron and steel industries are** among the most important industries in India. During 2014 through 2016, India was the third largest producer of raw steel . In 2019 India became the 2nd largest steel producer in the world after China and the largest producer of [steel iron](https://en.m.wikipedia.org/wiki/Direct_reduced_iron) in the world. The industry produced 82.68 million tons of total finished [steel](https://en.m.wikipedia.org/wiki/Steel) and 9.7 million tons of [raw iron](https://en.m.wikipedia.org/wiki/Pig_iron). Most iron and steel in India is produced from iron ore.

Policy for the sector is governed by the Indian [Ministry of Steel](https://en.m.wikipedia.org/wiki/Ministry_of_Steel), which concerns itself with coordinating and planning the growth and development of the iron and steel industry, both in the public and private sectors; formulation of policies with respect to production, pricing, distribution, import and export of iron and steel, [ferro alloys](https://en.m.wikipedia.org/wiki/Ferroalloy) and [refractories](https://en.m.wikipedia.org/wiki/Refractory); and the development of input industries relating to [iron ore](https://en.m.wikipedia.org/wiki/Iron_ore), [manganese](https://en.m.wikipedia.org/wiki/Manganese) ore, [chrome ore](https://en.m.wikipedia.org/wiki/Chromium) and [refractories](https://en.m.wikipedia.org/wiki/Refractories) etc., required mainly by the steel industry.

Most of the public sector undertakings market their steel through the [Steel Authority of India](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) (SAIL). The Indian steel industry was de-licensed and de-controlled in 1991 and 1992 respectively.

## ***Steel plants***

There are two types of steel plants - mini steel plants and integrated steel plants. About half of the country's steel is produced by medium and small enterprises.

Mini steel plants are smaller, have [electric furnaces](https://en.m.wikipedia.org/wiki/Electric_arc_furnace) and use steel scrap as well as [sponge iron](https://en.m.wikipedia.org/wiki/Direct_reduced_iron). They have re-rollers that use steel ingots as well. They produce [Carbon steel](https://en.m.wikipedia.org/wiki/Carbon_steel) and [alloy Steel](https://en.m.wikipedia.org/w/index.php?title=Alloy_Steel&action=edit&redlink=1) of certain specifications. There are around 650 mini steel plants in India.

Integrated steel plants are large, handle everything in one complex - from putting together raw material to steel making, rolling and shaping. [Iron ore](https://en.m.wikipedia.org/wiki/Iron_ore), [coke](https://en.m.wikipedia.org/wiki/Coke_%28fuel%29), and [flux](https://en.m.wikipedia.org/wiki/Flux_%28metallurgy%29) are fed into the [blast furnace](https://en.m.wikipedia.org/wiki/Blast_furnace) and heated. The coke reduces the [iron oxide](https://en.m.wikipedia.org/wiki/Iron_oxide) in the ore to metallic iron, and the molten mass separates into [slag](https://en.m.wikipedia.org/wiki/Slag) and iron. Some of the iron from the blast furnace is cooled, and marketed as [pig iron](https://en.m.wikipedia.org/wiki/Pig_iron); the rest flows into basic oxygen furnaces, where it is converted into steel. Iron and steel scrap may be added to both to the [blast furnace](https://en.m.wikipedia.org/wiki/Blast_furnace) and to the basic iron furnace. There are about five integrated SAIL plants in India.

## ***Current steel plants in India***

There are more than 50 iron and steel industries in India. Given below are major steel plants:

|  |  |  |
| --- | --- | --- |
| **Name** | **Location** | **Operator** |
| [Jindal Steel and Power Limited](https://en.m.wikipedia.org/wiki/Jindal_Steel_and_Power_Limited) | [Raigarh](https://en.m.wikipedia.org/wiki/Raigarh), [Chhattisgarh](https://en.m.wikipedia.org/wiki/Chhattisgarh) | [Jindal Steel and Power](https://en.m.wikipedia.org/wiki/Jindal_Steel_and_Power) |
| [Jindal Steel and Power Limited](https://en.m.wikipedia.org/wiki/Jindal_Steel_and_Power) | [Angul](https://en.m.wikipedia.org/wiki/Angul), [Odisha](https://en.m.wikipedia.org/wiki/Odisha) | [Jindal Steel and Power](https://en.m.wikipedia.org/wiki/Jindal_Steel_and_Power) |
| [Tata Steel Limited](https://en.m.wikipedia.org/wiki/Tata_Steel) | [Jamshedpur](https://en.m.wikipedia.org/wiki/Jamshedpur), [Jharkhand](https://en.m.wikipedia.org/wiki/Jharkhand) | [Tata Steel](https://en.m.wikipedia.org/wiki/Tata_Steel) |
| [Tata Steel Limited](https://en.m.wikipedia.org/wiki/Tata_Steel) | [Kalinganagar](https://en.m.wikipedia.org/wiki/Kalinganagar), [Odisha](https://en.m.wikipedia.org/wiki/Odisha) | [Tata Steel](https://en.m.wikipedia.org/wiki/Tata_Steel) |
| [Visvesvaraya Iron and Steel Plant](https://en.m.wikipedia.org/wiki/Visvesvaraya_Iron_and_Steel_Plant) | [Bhadravati, Karnataka](https://en.m.wikipedia.org/wiki/Bhadravati%2C_Karnataka) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Durgapur Steel Plant](https://en.m.wikipedia.org/wiki/Durgapur_Steel_Plant) | [Durgapur](https://en.m.wikipedia.org/wiki/Durgapur), [West Bengal](https://en.m.wikipedia.org/wiki/West_Bengal) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Bhilai Steel Plant](https://en.m.wikipedia.org/wiki/Bhilai_Steel_Plant) | [Bhilai](https://en.m.wikipedia.org/wiki/Bhilai), [Chhattisgarh](https://en.m.wikipedia.org/wiki/Chhattisgarh) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Bokaro Steel Plant](https://en.m.wikipedia.org/wiki/Bokaro_Steel_Plant) | [Bokaro](https://en.m.wikipedia.org/wiki/Bokaro_Steel_City), [Jharkhand](https://en.m.wikipedia.org/wiki/Jharkhand) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Chandrapur Ferro Alloy Plant](https://en.m.wikipedia.org/wiki/Chandrapur_Ferro_Alloy_Plant) | [Chandrapur](https://en.m.wikipedia.org/wiki/Chandrapur), [Maharashtra](https://en.m.wikipedia.org/wiki/Maharashtra) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [IISCO Steel Plant](https://en.m.wikipedia.org/wiki/IISCO_Steel_Plant) | [Asansol](https://en.m.wikipedia.org/wiki/Asansol), [West Bengal](https://en.m.wikipedia.org/wiki/West_Bengal) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Rourkela Steel Plant](https://en.m.wikipedia.org/wiki/Rourkela_Steel_Plant) | [Rourkela](https://en.m.wikipedia.org/wiki/Rourkela), [Odisha](https://en.m.wikipedia.org/wiki/Odisha) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Salem Steel Plant](https://en.m.wikipedia.org/wiki/Salem_Steel_Plant) | [Salem](https://en.m.wikipedia.org/wiki/Salem%2C_Tamil_Nadu), [Tamil Nadu](https://en.m.wikipedia.org/wiki/Tamil_Nadu) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India_Limited) |
| [Alloy Steel Plant](https://sail.co.in/special-steel-plants/alloy-steels-plant) | [Durgapur](https://en.m.wikipedia.org/wiki/Durgapur), [West Bengal](https://en.m.wikipedia.org/wiki/West_Bengal) | [SAIL](https://en.m.wikipedia.org/wiki/Steel_Authority_of_India) |
| [Vizag Steel](https://en.m.wikipedia.org/wiki/Visakhapatnam_Steel_Plant) | [Visakhapatnam](https://en.m.wikipedia.org/wiki/Visakhapatnam), [Andhra Pradesh](https://en.m.wikipedia.org/wiki/Andhra_Pradesh) | [Rashtriya Ispat Nigam Limited](https://en.m.wikipedia.org/wiki/Rashtriya_Ispat_Nigam_Limited) |
| [Essar Steel India Limited](https://en.m.wikipedia.org/wiki/ESSAR_Steel_India_Limited) | [Hazira](https://en.m.wikipedia.org/wiki/Hazira), [Gujarat](https://en.m.wikipedia.org/wiki/Gujarat) | [Essar Steel India Limited](https://en.m.wikipedia.org/wiki/ESSAR_Steel_India_Limited) |
| [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) | [Hospet](https://en.m.wikipedia.org/wiki/Hospet), [Bellary](https://en.m.wikipedia.org/wiki/Bellary), [Karnataka](https://en.m.wikipedia.org/wiki/Karnataka) | [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) |
| [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) | [Tarapur](https://en.m.wikipedia.org/wiki/Tarapur%2C_Maharashtra), [Boisar](https://en.m.wikipedia.org/wiki/Boisar), [Maharashtra](https://en.m.wikipedia.org/wiki/Maharashtra) | [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) |
| [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) | [Dharamtar](https://en.m.wikipedia.org/wiki/Dharamtar), [Maharashtra](https://en.m.wikipedia.org/wiki/Maharashtra) | [JSW Steel](https://en.m.wikipedia.org/wiki/JSW_Steel_Ltd) |

## ***Structure***

The iron and steel industry in India is organised into three categories: main producers, other major producers, and secondary producers. In 2004-05, the main producers i.e. SAIL, TISCO and RINL had a combined capacity of around 50% of India’s total steel production capacity and production. The other major producers — ESSAR, ISPAT and JVSL — account for around 20% of the total steel production capacity.

## ***National steel policy***

National steel policy – 2005 has the long-term goal of having a modern and efficient steel industry of world standards in India. The focus is to achieve global competitiveness not only in terms of cost, quality, and product-mix but also in terms of global benchmarks of efficiency and productivity. The Policy aims to achieve over 100 million metric tonnes of steel per year by 2019-20 from the 2004-05 level of 38 mt. This implies an annual growth of around 7.3% per year from 2004-5 onward.

The strategic goal above is justified because steel consumption in the world, around 1000 million metric tonnes in 2004, is expected to grow at 3.0% per annum to reach 1,395 million metric tonnes in 2015, compared to 2% per annum in the past fifteen years. China will continue to have a dominant share of the demand for world steel. Domestically, the growth rate of steel production over the past fifteen years was 7.0% per annum. The projected rate of 7.3% per annum in India compares well with the projected national income growth rate of 7-8% per annum, given an income elasticity of steel consumption of around 1.[[4]](https://en.m.wikipedia.org/wiki/Iron_and_steel_industry_in_India#cite_note-4)

Subsequent steel policies have been drafted each year. The Indian Ministry of Steel has released draft National Steel Policy (NSP), 2017. The problems identified in this sector include:

* Steel companies are plagued with huge debts.
* Lack of domestic demand. This is a major concern
* Low quality of metallurgical coke for blast furnace iron making.
* High input costs.
* Cheap imports from China, Korea and other countries are also a matter of concern for domestic producers.

The aim of the draft NSP is to develop a self-sufficient steel industry that is globally competitive. The policy proposes setting up Greenfield Steel Plants along the Indian coastline under the Sagarmala Project. This has been proposed in order to tap cheap imported raw materials such as coking coal and export the output without incurring huge cost burden. The policy has also proposed the idea of gas-based steel plants and use of electric furnaces in order to bring down the use of coking coal in blast furnaces. The policy targets to achieve production of 300 million tonnes by 2030-31.

## ***Production***

The steel industry in India was de-licensed and decontrolled in the years 1991 and 1992 respectively. In 2014-15, production for sale of total finished steel (alloy + non-alloy) was 91.46 million tonnes, a growth of 4.3% over 2013-14. Production for sale of pig iron in 2014-15 was 9.7 million tonnes, a growth of 22% over 2013-14. India is the largest producer of sponge iron in the world with the coal-based route accounting for 90% of total sponge iron production in the country. Data on production for the sale of pig iron, sponge iron and total finished steel (alloy + non-alloy) are given below for last five years.



### Production (in million tonnes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Category | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
| Pig Iron | 5.68 | 5.371 | 6.870 | 7.950 | 9.694 |
| Sponge Iron | 25.08 | 19.63 | 14.33 | 18.20 | 20.38 |
| Total Finished Steel(alloy+non-alloy) | 68.62 | 75.70 | 81.68 | 87.67 | 91.46 |

***Import and export***

Imports

Iron and steel are freely importable as per the extant policy. There has been a steady increase in the amount of steel imported into the country to meet demands.

Imports (in Million Tonnes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Category | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
| Total Finished Steel | 6.66 | 6.86 | 7.93 | 5.45 | 9.32 |

Exports

Iron and steel are freely exportable. In the years 2010-11, India exported about 3.64 million tonnes of steel; further, in 2011-12 it rose to 4.59 million tonnes. 2012-13 and 2013-14 did not see a sharp rise with exports of 5.37 and 5.98 million tonnes respectively. The exports declined in the year 2014-15, falling to 5.59 million tonnes.

Exports (in Million Tonnes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Category | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
| Total Finished Steel | 3.64 | 4.59 | 5.37 | 5.98 | 5.59 |