

## Status and Prospects of DRI Industry

**D. P. Deshpande** - Chairman  
**Deependra Kashiva** - Executive Director  
 (Sponge Iron Manufacturer's Association)

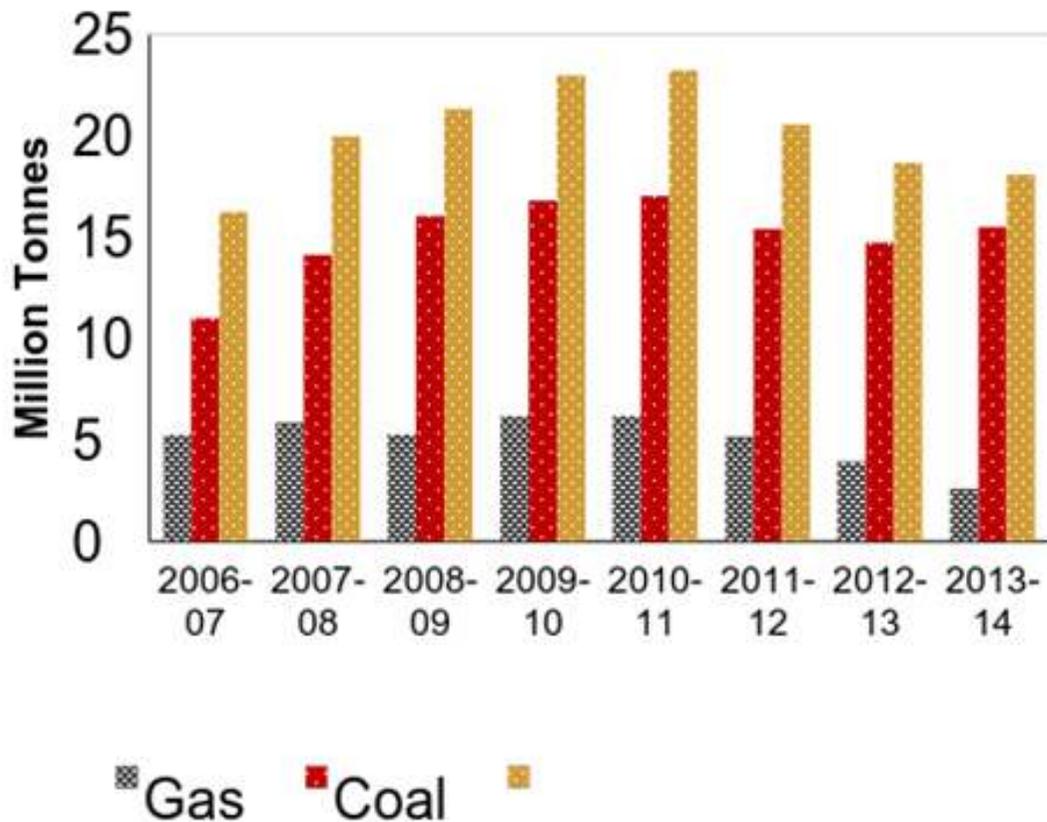
It need not be over emphasised how important the role of DRI industry is in the development of Indian Steel industry. The steel industry today is about 126 million tonnes in size. This would not have been possible if India did not produce DRI in multiple plants and multiple locations. No other country in the world has such a large and distributed steel making capacity based on DRI. It is estimated that over 55 percent of this production has come from the secondary steel making. In FY 2017, India produced about 90 mtpa of steel. DRI, an important input to this steel making, accounted for 21 million tonnes, 7 mtpa from Gas based and 14 mtpa from coal based DRI capacities. DRI based production can come up quickly, DRI plants can be shutdown or scaled down easily. In the sluggish growth period post 2011, the steel demand did not go up as anticipated and at the rate in which capacity was getting created during this

period, causing a drop in overall industry wise capacity utilisation. For the first time since 2011, the trend of a steady year over year drop in DRI production, got reversed, as can be seen from the graph given below.

While DRI production dropped for five years, the steel production was raising year over year in these years. How do we understand this? Virtually, all ISPs added capacities in their plants and these capacities came to production in the last few years. The lull in the demand growth, coupled with these additions of capacities brought the steel price under pressure. There was an added pressure of ongoing Chinese steel imports and prospect of it going up.

The temporary closure of quite a few iron ore mines due to the supreme court order, the drop in availability of low cost domestic coal also due to cancellation of leases, non availability of natural gas due to

short supply and steel industry being low in priority, the laded pressure on margins due to volatility in iron ore and coal prices, created difficulties not only to the ISPs, but also the secondary steel sector. This reflected in drop in price of the DRI and consequent drop in production. Quite a few DRI plants, especially those based on 50TPD/100 TPD kilns and in merchant market had to stop. The gas based plants operated on low key. All put together, there was a year over year drop in DRI production every year, since 2011. The capacity utilisation of DRI plants has been anywhere close to only 50 percent since 2011. In H2 of FY 2017, however, the policy support from the Government, improvement in availability of iron ore and coal, drop in their price, increasing gas supply commitments from the governments had their effect and the DRI production jumped up by 18%.



The DRI plants invariably produce by product power. If there is no in-house power usage, the realisation of money from sale of power is unviably low and poor. Unlike during the golden period for the DRI industry, when power sale constituted a large chunk of the plant profitability, the power plant investments started to remain idle, hitting the bottom lines of the plants in the industry.

How do we see the DRI industry, going forward? Impetus is in fact being provided by the government of India. The Chinese steel dumping has been held behind on a longer term basis allowing the steel price to come to remunerating levels. The availability of input materials, gas, coal, iron ore has improved and appears to be improving further. What is awaited is a sentiment of or a visible growth in steel demand by way of private investments in housing, plant and machinery. The push for investment in infrastructure provided by the government does not look sufficient by itself. The threat of ship breaking scrap, a substitute for DRI is also expected to go down with a drop in its attractiveness to the melting industry with the new quality order coming into effect. The budgetary support

for the implementation of policy of " home for all" may add to demand. It is to be seen. The new steel policy of 300 mtpa steel production capacity by 2030, and steps taken towards meeting the targets hold a promise that production and capacity utilisation of the existing plants will go up. There will be a scope for further expansion too. The intrinsic and relative ease by which the secondary steel sector shall grow as compared to the ISPs, augurs well therefore, for the DRI industry. The DRI production would easily double in the medium term. Incidentally, recently announced National Steel Policy 2017 envisages 60-65% steel production through BF-BOF route and 35-40% from DRI-EAF & IF route. The policy thus envisages a capacity of 114 million tonnes per annum and DRI demand/production as 80 million tonnes by 2030-31. While the total production would go up, the forward integration of the DRI units would cause a drop in availability of DRI for merchandise. It may take a while to attach any numbers to this or its trend in future.

A word at this stage on DRI production using pellets will not be out of place. Pellets reduce the dependability of DRI plants on sized ore and enlarging the basket of input

materials reduces the RM risks of the industry. Pellets can be tailor made to improve the effectiveness of the DRI process. Pellets can cause improvement in the DRI kiln productivity. However, quality of iron ore fines that go into pellet making make DRI produced from pellets poorer in quality, fetching lower price too.

There are some concerns too. The ability of the industry other banks or even the government to manage the current NPA's in the steel sector is limited. Some unconfirmed reports suggest that plants in the secondary steel value chain have less of NPA problem and could catch the steel momentum sooner than later.

All the factors of success and growth cannot be attributed to the external world. The DRI industry also needs to make its own efforts, without wholly depending only on the government support. There is a need to

reduce the energy cost, and the carbon footprint, on a continuous basis. Way needs to be found to do so by at least 25 percent, through PAT based efforts or otherwise, it may require improving the quality of input materials, developing and putting into practice predictive and optimisation models, improving plant yields by reducing wastage etc. The industry may have to come together, identify ways and commission developmental projects to get there. With a likely rising price differential between coking coal and thermal coal, the prospect of DRI route to making steel will find favour as compared to the conventional BF-BOF route. DRI industry may have to aim for a significant drop in its cost through multiple ways. One of the biggest advantages of the DRI industry is that it has three standard modules, 100 TPD, 350 TPD, 500 TPD; making it easier and less expensive to commission a few improvement projects.

India is currently the largest producer of DRI in the world but Iran the 2nd largest producer, is threatening India's supremacy. While absolute position in the rankings may be immaterial, loss of future potential to export cannot be ignored.