

Steel Sector Challenges - China, India & Chhattisgarh

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The economic performance of any country is measured with the “trade surplus” the country is able to achieve. Considering this as a benchmark for the real growth of economy of a nation, our country is having large trade deficit because of huge import bills mainly on account of petroleum imports. During past almost 20 years China has emerged as a global manufacturing hub for producing almost all type of goods and commodities which are consumed in bulk all over the world. Since, production and consumption of steel is one of the major worldwide economic activity, wherein, India has the highest potential to contribute to its economy as well as draw highest share of global steel consumption. Therefore, it is important to understand where Indian steel sector is lacking behind, and what are the main challenges.

As per World Steel Association, the world steel demand is likely to grow by 0.4% to reach the level of 1494 Million Ton/year.

Against this the installed capacity of steel production in China as per Reuter is 1160 MT by end of 2014. It was reported that around 2037 steel projects were still under construction inspite of knowing the fact that investment in the ferrous smelting sector had fallen down by 5.9%. During the year 2014, the demand was only around 740 million tons against the domestic production of 814 million tons in China whereas the production was 803.8 million tons in 2015 which was lower by 2.3% compared to previous year and since 1981 this was the first year when the production had declined from previous year. Even in the current

year of 2016 the expected demand for Steel in China is 645.4 million tons. In 2017, the Chinese steel demand is likely to remain 626.1 million ton, which is around 15% less than demand in the year 2013. Finding no way of any improvement in domestic demand as well as on export demand, the Chinese steel industry had decided to cut-down its steel production capacity by 100 to 150 million tons during the next five years in order to tackle the glut and declining steel prices in the market.

By looking at the above Chinese scenario the Indian steel industry is having about 90 million tons per year steel production capacity and 83.8 million tons steel demand in 2016. In 2017, it will reach upto 88.3 million tons with an expected growth of 5.4%. Looking at the planned infrastructure growth for the nation, the Indian government expects very rapid increase in demand for steel, therefore has created a very ambitious target of reaching 300 million tons steel production by the year 2025 which is likely to create significant employment and will contribute the highest to the Indian economy. To create around 200 million tons of steel production in India the country will require to invest around 200 billion USD in the next 9 years to come. Therefore, it is very important for the Indian government and those in steel sector and those who involved in the planning of Indian economy growth as well as investor to understand what are the tremendous challenges towards achieving this goal as well as for keeping the 90 million tons/annum existing capacity as viable and profitable. Without going in to further statistics, I feel conceptually the following issues are very important to be addressed for keeping present capacity of Indian steel sector as viable and profitable at the same time for creating a healthy atmosphere and congenial space to reach the goal of 300 million tons capacity by 2025.

The Most Important Challenge is to Achieve the Highest Material Efficiency, Energy Efficiency, Human Productivity, Quality Assurance and Efficient Infrastructure Availability

In this context, the Indian steel sector must compare itself on apple to apple basis as how much mineral ore is being consumed for each ton of steel production; for example if Chinese people (Or Other Steel Makers elsewhere in the world) are consuming 1.5 ton of Iron ore with an 65% Fe content, and if Indian steel sector consumes 1.9 – 2.0 tons of Iron ore then the Indian steel technology with this efficiency will not be able to compete in long run.

In the similar context it is important to compare how much fossil carbon/thermal energy is being consumed by them to reduce/melt the ore to metal viz-a-viz how much is being consumed by Indian steel sector.

The other component for comparison would be consumption of electricity, consumption of water, consumption of refractory, consumption of oxygen etc. subsequent to which the productivity of Man power in terms of steel production per person will also have some significant impact. It has been observed in general that, the Chinese steel sector has achieved overall greater technical efficiency than the Indian steel sector as a whole.

Subsequent to the technical efficiency of production process, another important aspect for the Indian steel industry is to assure a quality steel production. It has been often stated by the experts that secondary steel producers of the country are many a time not able to fully meet the criteria of quality steel notification, owing to the poor quality of iron ore and limitation of process adopted for production of steel from iron ore to sponge iron then melting in the induction furnace. There exists lot of conflict and confusion regarding the quality assurance of product with respect to sulphur, phosphorus content in it. The need of the time is to transparently address the issue in a manner that the secondary steel sector is not adversely affected by the legislative enforcement for the quality of steel which has been well adopted by the consumer of tropical region which do not construct high rise building and structural constructions. An alternative to the situation can be addressed by way of enforcing legislation to use the specified quality of steel wherever, the building construction is beyond a threshold number of stories or any civil structure like bridge or dam

which may be impacted due to a particularly poor quality of steel. This may provide enough space to the secondary steel producers who are locked up in the battle of quality steel notification. It may also provide transparent knowledge to the consumers and user which are constructing small to medium economical houses and structures. However, in order to meet the competition at the international level, the quality steel production assurance will have to be top most aspect in the list priority.

Infrastructure inefficiency: One of the major bottleneck being faced by Indian steel industry is the high cost of internal transportation by rail or road, the compulsion of getting the material transported at the peak driven rates fixed by associations and in continuation the monopolistic attitude adopted by Indian Railways to charge higher freight rates makes the industry less competitive; not only in international market but also at the domestic level. The Government of India along with relevant ministry must focus their attention in comparing the burden of transport cost with other competing nations; due to infrastructure limitation on the competitiveness of the steel sector; which is one of the very important factors.

In addition to the transport cost the involvement of time and availability of facilities to transport iron ore, coal as well as finished goods is a matter of serious concern which will be one of the most serious bottleneck in allowing the growth of steel sector to reach 300 million tons capacity as well as to keep the present capacity as viable and profitable.

The infrastructure with respect to electricity is a very vital component which is being discussed in the subsequent paragraphs.

The Cost of Iron Ore



The cost of iron ore to the steel sector in India is one of the alarming factor which if not addressed suitably and immediately then it will be very hard for Indian steel industry to remain viable even for the present capacity and to make the investment feasible for proposed 300

million ton steel capacity target. It is a matter of serious concern to understand that how the Chinese Steel sector have ensured long term supply of good quality, cheaper iron ore from other nations by securing mining leases in many countries outside China including African countries, Australia etc., In spite of good quality Iron ore not being available in China, the Chinese steel sector has been able to assure the supply of good quality iron ore at very competitive prices for its steel plants. The Government of India needs to review its policy of auctioning the iron ore mines to the highest bidder which may not really happen to be viable proposition, if the Chinese steel sector with 1.2 billion tons per year steel production capacity is bent upon, to maintain its production and dump the steel in world market at cheaper rates. In view of this the iron ore mineral policy must be devised in a manner whereby the cost of iron ore royalty is not burdened to the unviable level because of higher iron ore royalties and dead rents. It must be ensured that good quality iron ore is made available on long term basis to all the steel plants of government or private at uniform rates, so as to keep them most competitive in the world.

Cost of Coal



Cost of coal is another detrimental factor which is very adversely hitting the Indian steel sector, with respect to international competition as well as domestic competition too. The vision of Government of India has to be much broader than the present prospective of realizing highest royalty by way of highest bidding for royalty as well as dead rent. This must be realized that fossil fuel economy is going to be very fragile in times to come. Specially, when the whole world has unanimously accepted that climate change is a serious threat, thus in coming years the emitters of green house gases are likely to be more under severe regulatory observation and enforcement, than of this day. In addition to this, those nations which are only exploiting the available fossil fuel available with them to

generate revenue by exports and are not causing emission by combustion of these fuels within their territory are not likely to be under mandate to reduce their national GHG emission for the quantity mined out and exported by them. Whereas, the countries which consume such fossil fuel will have to account for the entire emission caused by them irrespective of combusting fossil fuel from their domestic resources or imported resources. Hence the danger is that huge fossil fuel deposits available within the nation will remain unutilized due to unattractive cost of production as compared to imported resources. At the same time it makes the Indian steel sector less competitive world wide and as on the date of achieving Zero emission level the country may be left behind with huge fossil fuel unutilized. In view of all these considerations again the Government of India needs to devise a policy by which burden of royalty on fossil fuel and cost of transportation of fossil fuel should not make the steel sector less competitive.

Sustainable Electrical Energy Availability



Electricity is one of the major cost input for secondary steel production sector which has more than 20 million tones capacity in India. The secondary steel sector growth in Durgapur and Chhattisgarh was mainly attracted due to uninterrupted power supply at very competitive prices. This has substantially changed in Chhattisgarh state during recent years. Due to higher tariff, charged by the power generating utilities the entire secondary steel sector in Chhattisgarh state is undergoing severe depression and many units are forced to close. The contribution of secondary steel sector to the national economy required to be evaluated with absolutely different perspective, which promotes the growth of social-economy and generates huge employment and reduces the capital cost on the



society, utilizes marginal infrastructures and resources of the nation and enables diversified growth for the far-flung regions of the nations. It creates opportunity for growth and development of small and medium enterprises which are termed as backbone of economy of any nation. The stiff competition amongst the secondary steel sector provides very health opportunity for the consumers to procure steel at competitive and affordable prices. It nurtures the human craftsmanship and skill amongst less qualified or less schooled artisans or workers who have acquired absolutely unique skills for production and quality control etc. by self-learning. Therefore the power supply tariff on such industry should not be based on ensuring the viability of the power plant rather the Government of India must formulate a policy and framework to determine the tariff in a way by which the steel sector is allowed to procure the power by providing a reasonable margin to the power utility and at the rate at which the steel sector is also able to survive. One of the criteria for such determination may be the assessment of minimum power tariffs elsewhere in the country or state which offer competition to the secondary steel sector or the cost of power incurred by primary steel sector may also be a benchmark for considering the competitive price to be charged on secondary steel sector.

Enforcement of Legislation

The Indian steel sector can be distinctly divided into two major portions, one that of primary steel producers which are having capacity to produce sponge iron from iron ore to steel route or blast furnace route to steel, the other portion can be considered as secondary steel sector which is normally based on sponge iron and scrap melting depending on grid power. At the current scenario the entire legislation is almost the same for both the sector whereas the primary steel sector enjoys number of advantages by way of captive iron ore mines, or secured iron ore supplies, as well as secured coal supply and captive power plant etc. But the secondary steel sector largely

depends on the market forces for procuring all its input and producing the steel to sale in competition to primary steel producers. The secondary steel sector requires a special attention and support from government for its survival for the advantages it offers to society and nation.

There are several aspects and issues which are specific to the situation of time and territory which may be required to be addressed for mitigating the challenges faced by steel sector in India. But in general I feel for Indian economy, growth of steel sector is the top most need therefore Government of India must lay its special attention through Ministry of Steel to ensure that 100% of secondary and primary steel industries are able to adopt the best technology efficiency and are able to produce the best quality steel at most competitive price.

It is a matter of serious consideration that if our steel sector is competitive and if we are able to offer 200 million tons of steel to global market every year then at the current rate of average 500 USD per ton we would be able to earn 100 billion USD revenue to our nation every year. The spin over effect of such economic growth will give impetus by atleast 10 fold to Indian economy. Hence it is in the national interest to look into the plight and problems in primary and secondary sector of Indian steel industry and create a time bound strategy by which 100% of the steel units become viable by end of the targeted time.

Chhattisgarh state is one of the major steel hubs in nation and this state has the potential to take the steel production capacity in itself to more than 100 million tons per annum. Therefore the state Government of Chhattisgarh should have a "millennium steel goal policy" specially formulated to take the Chhattisgarh Steel hub to 100 million tons/year level. I feel with the available mineral resources, coal resources and abundance of land and water Chhattisgarh State is most suitable state in the country to reach to 100 million ton/year goal by 2025.